



Ohio University Bulletin

Graduate College 1976-77 · Part I, General Information
February, 1976

ACADEMIC CALENDAR FOR 1976-77

The student should obtain from the Graduate College Office a detailed list of deadlines for the quarter in which he or she expects to receive the graduate degree.

FALL QUARTER, 1976

Sept. 21, Tues.	Registration
Sept. 22, Wed.	Classes begin
Oct. 5, Tues.	Last day for filing application and paying fee for conferral of degree on December 11
Nov. 11, Thurs.	Veterans Day. (University offices closed; classes in session)
Nov. 24, Wed.	Thanksgiving holiday begins at noon
Nov. 25, Thurs.	Thanksgiving Day (Offices closed; no classes)
Nov. 29, Mon.	Classes resume with first scheduled class
Dec. 11, Sat.	Quarter closing date

WINTER QUARTER, 1977

Jan. 3, Mon.	Registration
Jan. 4, Tues.	Classes begin
Jan. 17, Mon.	Last day for filing application and paying fee for conferral of degree on March 19
Mar. 19, Sat.	Quarter closing date

SPRING QUARTER, 1977

Mar. 28, Mon.	Registration
Mar. 29, Tues.	Classes begin
Apr. 11, Mon.	Last day for filing of application and paying fee for conferral of degree on June 11
May 30, Mon.	Memorial Day holiday (Offices closed; no classes)
June 11, Sat.	Quarter closing date; Annual Commencement

SUMMER SESSION, 1977

(First Term)

June 20, Mon.	Registration; classes begin
June 24, Fri.	Last day for <i>graduate</i> students to file application and pay fee for conferral of degree on August 27
July 4, Mon.	Independence Day holiday (Offices closed; no classes)
July 23, Sat.	Term closing date

(Second Term)

July 25, Mon.	Registration; classes begin
Aug. 27, Sat.	Session closing date

Ohio University Bulletin

Graduate College 1976-77
Part I, General Information

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GENERAL INFORMATION

- The general policies, regulations, calendar and fees contained in this bulletin are necessarily subject to change without notice at the discretion of the University.
 - A candidate for a degree must either (a) meet those requirements set forth in the graduate bulletin at the time of the student's initial registration in the Graduate College, or (b) should the student elect to follow requirements of a later bulletin, meet those later requirements in their entirety. In the event of program changes, departments will be expected to make appropriate adjustments to allow the student to fulfill the requirements of the initial program of study. This paragraph does not apply to students in the College of Osteopathic Medicine.
 - The student should assume responsibility for knowing Graduate College and departmental regulations and for complying with procedures applicable to him or her.
 - Part II of the graduate bulletin contains course descriptions. It is available from the Graduate College upon written or personal request.
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PROFILE OF OHIO UNIVERSITY

Established in 1804, Ohio University is the oldest institution of higher education in the Northwest Territory. The enrollment on the main campus in Athens is 13,150, while five regional campuses and academic centers in southern Ohio enroll an additional 4,100. The full-time faculty number 615 and there are 21 part-time faculty and about 635 graduate associates, graduate staff associates, graduate research associates and graduate teaching associates.

The Graduate College offers master's degree work in 45 areas of study and doctoral level work in 19 areas. The present enrollment of the Graduate College is 2,200, most of whom are full-time students.

The University is accredited by the North Central Association of Colleges and Secondary Schools and by the recognized professional accrediting associations identified with its major academic divisions. It holds membership in the leading state and national educational and professional associations.

The University's academic calendar consists of four quarters of from ten to 12 weeks' duration, the summer session having two five-week terms. Many students find it advantageous to register for all four quarters, thus having an opportunity for uninterrupted study and research. A graduate appointee—graduate associate, graduate staff associate, graduate research associate or gradu-

ate teaching associate—has the added benefit of study with only an incidental fee of \$55 charged during the summer quarters immediately preceding and following the period of regular appointment. Some graduate appointments and scholarships are available during the summer session as well as in the regular academic year.

FACILITIES AND SERVICES

Counseling and Psychological Services

Counseling and psychological services are available to graduate and undergraduate students on an individual and/or group basis for: *personal adjustment problems* including those of an emotional, marital, sexual or social nature, pregnancy concerns, general dissatisfaction or not living up to one's potential in various endeavors; *academic difficulties* such as exam panics and other performance anxieties or not performing up to one's academic potential and *career concerns* which include being uncertain about educational or career objectives, needing help to translate an academic major into occupational possibilities.

Occupational information is available for use without an appointment about career areas, including information about the nature of duties and present and future demands related to a wide variety of occupations.

The Miller Analogies Test (MAT) is administered on a weekly appointment basis.

Students who wish to obtain confidential consultation about academic, career or personal adjustment concerns may contact the receptionist on the third floor of the Hudson Health Center or call 594-6081.

Equal Opportunity Programs

It is University policy that there shall be no educational or employment discrimination on the basis of race, color, creed, national origin, sex, handicap or—in many cases—age.

Nondiscrimination and affirmative action programs are coordinated by the Office of Equal Opportunity Programs. EOP can provide information not only about the University's own programs in this area, but also about federal and state nondiscrimination laws and guidelines.

If a student believes he or she is being discriminated against or has questions regarding relevant laws and guidelines, Equal Opportunity Programs would be happy to attempt to answer any questions, provide information or refer the student to the appropriate source or agency for answers.

Visit 103 McGuffey Hall or call 594-8727.

Graduate Student Council

The Graduate Student Council is composed of student representatives from the graduate academic departments. Its purpose is to represent the graduate student body in the University community and to promote academic and administrative programs for the University community and for graduate students in particular. The council is the University-recognized graduate student organization and therefore responsible for recommending graduate students for membership on University Standing Committees.

The council meets monthly except summers. All meetings are open to the public.

The office of the council is located off the lounge of Mackinnon Hall of the new Graduate Center on South Green.

Information Center

A complete information service for students and campus personnel, in the lobby of Baker Center, provides answers to questions regarding University services, programs and facilities. The telephone number is 594-2701.

The Information Center has Ohio University brochures, the campus directory, academic and social calendars and listings of University committees and departmental chairmen. It receives applications for student participation on University committees and researches questions when information is not immediately available.

For University personnel and student telephone numbers, call the University switchboard by dialing "8" from any University phone (those with the 594- prefix) or dial 594-5511 when calling from outside the University.

Library

The Alden Library has a capacity of 1,400,000 volumes and seating for 3,200. The central facility serves the entire student body and faculty with special services available throughout the seven-story building.

The main campus entrance is on the fourth floor, where the public catalog and main circulation desk are housed. The reference collection, current periodicals, interlibrary loan and technical processing staff are also located on this central floor, as is a collection of national and trade biographies. Government documents, rare books and archives and the microform collection occupy the fifth floor, while the top two levels contain the research collection, graduate lockers and faculty studies.

The student lounge, reserve book room and the Associated Studies Division are housed on the third floor. On the second floor are the fine art and children's libraries. International Supplementary Materials and the Map Library are located on the first floor.

The main collection consists of over 848,276 volumes, of which 192,146 are government documents arranged by Superintendent of Documents classification. In addition, there are 26,480 pamphlets in vertical files; 108,324 maps, 83,000 art slides and 6,495 current periodical titles. There are extensive holdings in microform format: 41,425 reels of microfilm and approximately 471,989 units of microcard, microprint and microfiche reported as of June, 1975. (By the rules of national reporting, microform units are *not* converted into book equivalents.)

Recent membership in the Center for Research Libraries, located in Chicago, has made that multi-million-volume collection readily available on loan to researchers. Expedited interlibrary loans have been made possible throughout Ohio by the recently organized Reference and Interlibrary Loan Service at The Ohio State University. Microform holdings have increased greatly in the last three years and are an extremely rich, but often overlooked, resource base. Graduate students are particularly exhorted to visit the microform area to explore the holdings, many of which are *not* listed in the public catalog.

The Special Collections Division administers the valuable J. W. Morgan Collection of books in the history of science (especially chemistry), the rare book collection and the archives. Small collections on a less formal basis are administered in several other buildings on campus in connection with the School of Music and several of the science departments.

Medical Services

The Unified Health Services are located in the Hudson Health Center. They include Medical Services, Health Education Services, Counseling and Psychological Services and Environmental Health and Safety Services. Medical Services include an outpatient clinic; complete ancillary services, including x-ray, clinical laboratory, physical therapy, and pharmacy; and a dental clinic.

The Medical Services staff includes several full-time physicians; a dentist; a pharmacist; a coordinator of health education services; registered nurses, and registered laboratory, x-ray and other allied personnel.

A continuous health record is maintained on each student, beginning with the report of medical history submitted upon entry to the University. This report (and a tuberculosis skin test accomplished by the University Medical Services) is required for final admission to the University or for reenrollment after an absence of two or more years.

MAJOR MEDICAL INSURANCE PLAN. A major medical insurance plan designed to supplement the care provided

by the University Medical Services is mandatory for every student registered for more than six hours unless the student submits evidence of coverage by a comparable private insurance plan.

The plan provides protection against major medical and surgical expenses regardless of where the student may be. In addition to the medical and surgical benefits payable under the terms of the group plan contract, an accidental death payment is part of the policy.

To assist married students, a major medical-surgical expense protection insurance plan for dependents is available through the University comprehensive group medical insurance policy.

Ombudsman of the University

At the suggestion of the President's Workshop in the summer of 1970, a University ombudsman was appointed. The ombudsman's duties include the maintenance of simple, orderly procedures for receiving requests, complaints and grievances, both from students and from other members of the University community; working, where a pattern of grievances develops, for a change in regulations, procedures or personnel to prevent problems; assisting individuals in accomplishing the expeditious settlement of their problems; intervening in the bureaucratic process on behalf of individuals when said process unnecessarily or unfairly impinges upon them; using broad investigatory powers and direct and ready access to all University officials of instruction and administration, and reporting of valid complaints directly to the President when no remedy has been found elsewhere in the University.

The office of the Ombudsman of the University is located in 200 McGuffey Hall, telephone 594-4721.

Placement and Internship Service

The Placement and Internship Service provides information concerning teaching and administrative positions at the elementary, secondary, college and university levels. Teaching positions at the elementary and secondary levels include professional education, home economics, counselor education, industrial arts and physical education. Information is available on vacancies at the PhD and master's degree levels in all disciplines from most states. This information includes student personnel services and college university administration.

The Placement Service also assists and counsels students and alumni seeking positions in business, industry and government.

The Placement Service has a well-stocked graduate catalog library as a part of its service.

Study Abroad Programs

Ohio University offers two study abroad programs for graduate credit. The Study in Italy Program (spring) is administered by the Department of Comparative Arts, 44 University Terrace. The Study in Mexico Program (summer) is administered by the Department of Modern Languages, Ellis Hall.

LIVING ARRANGEMENTS

Ohio University has made available Crawford and Mackinnon Halls for graduate students. Each of these

residence halls accommodates a maximum of 120 students in single- and double-occupancy rooms. The graduate doubles (formerly used to house four students each) are actually two rooms—one equipped as a study room and the other a bedroom with ample closet and dresser space. There are lounges on each of the four floors in each building, carpeted hallways, and special-purpose and recreation space readily available. Weekly linen service is provided for each room. These two residence halls are designed to be the hub of the graduate student activities on the campus through the involvement of the Graduate Student Council.

Nelson Commons on the South Green adjacent to the graduate halls provides complete food service programs or, if you prefer, you may select a Room-Only option and purchase your meals on a pay-as-you-go basis. In addition, there are private dining rooms available for special occasions and residence hall functions as well as snack bar facilities and recreation areas which are open for evening use.

Other special features of the graduate residence halls include: parking facilities near the halls where space may be rented, buildings remaining open during the winter and spring breaks when other halls are closed, and social and recreational funds available for residence hall activities.

While graduate students are not required to live in University residence halls, many do take advantage of the facilities available because of the convenience of location and services. All residence hall contracts are for the entire academic year (fall, winter, and spring quarters), unless the student withdraws from school or graduates.

Students residing off-campus may arrange to eat in University dining halls by signing an outside-boarder contract. These arrangements can be made through the Housing Office on a quarterly basis. Meals are served throughout the academic year except during the Thanksgiving, Christmas, and spring recess.

After admission to Ohio University, each graduate student will receive information concerning the residence halls. These materials will provide specific rates for room and board, facilities available within the halls, and services provided. Should you have other questions about residence halls, contact the Director of Housing, Chubb Hall, Ohio University, Athens, Ohio 45701.

Married Student Apartments

Ohio University has two housing complexes which are rented primarily to married students. The Wolfe Street Apartments are located on the southeast corner of the main campus, near the graduate science building. The Mill Street Apartments are six blocks northeast of the main campus, adjacent to the intramural fields.

Linens, bedding, dishes, lamps and rugs are not furnished in the Wolfe Street or Mill Street apartments. Air conditioners are permitted provided guidelines established by the University are followed. Furniture may be arranged to suit the occupants, but University furnishings may not be stored or removed from the apartments.

MILL STREET APARTMENTS. Each apartment in the Mill Street complex, which consists of 13 modern brick buildings, is furnished with an electric range, refrigerator, garbage disposal and draperies. There are three

coin-operated laundries conveniently located within the housing complex.

All utilities are included in the monthly rent, and a telephone outlet and an outlet for the television cable are provided in each unit. Either or both of these services may be obtained by contacting the appropriate company—General Telephone Company of Ohio or Continental Cablevision. The cost of these two optional services is not included in the rent.

One Bedroom. There are 66 one-bedroom apartments housed in a six-story building which has elevator service to accommodate both passengers and furnishings. There are both furnished and unfurnished apartments available. The current rental rates (subject to change as economic conditions warrant), are: furnished \$152 and unfurnished \$136.

Two Bedroom. Each of the 127 apartments, housed in 12 smaller buildings, has direct access to the outdoors. The buildings are grouped around interior courts with children's play areas. There are ample parking facilities for tenants and an area for guest parking in the rear lot. The current rental rate for the furnished two-bedroom apartment is \$176; unfurnished \$160 (subject to change as economic conditions warrant).

WOLFE STREET APARTMENTS. All of the Wolfe Street Apartments, located in two two-story brick buildings, are furnished except for draperies. All utilities are included in the rent, except for the telephone and TV cable. Laundry rooms with coin-operated machines are located in the complex.

There are four types of apartments at Wolfe Street, as follows:

Efficiency (4)	\$104
One Bedroom (38)	\$120
Bedroom-Nursery (8)	\$132
Two Bedroom (2)	\$148

(Rental rates are subject to change as economic conditions warrant.)

CULTURAL EVENTS AND ENTERTAINMENT

University students have the opportunity to attend theatrical productions of touring companies as well as plays presented by the School of Theater. The Ohio Valley Theater, a joint community-University organization, stages a series of outstanding productions each summer. The School of Music and the School of Theater cooperate in producing musicals, and the former school offers many recitals and concerts by faculty, students, and music organizations.

The Cultural Activities Committee sponsors internationally known instrumentalists and vocalists, symphony orchestras, chamber music groups, opera and ballet companies. The University invites guest artists and distinguished persons to lecture or appear in recital, and to talk informally with students and faculty.

Art exhibitions by the School of Art faculty and students are displayed in The Gallery in Seigfred Hall. In addition, special shows and exhibits from other galleries are presented in the Trisolini Gallery.

Pop concerts by contemporary entertainers are sponsored by student organizations on campus. First-run movies, foreign films, experimental movies and classic films are shown throughout the year.

The Edwin and Ruth Kennedy Lecture Series brings many distinguished lecturers to the campus, while speakers on a variety of topics are sponsored by campus organizations.

The University's radio stations, WOUB-AM and FM, and the educational television station, WOUB-TV, provide entertaining and educational programming for the University and the Athens community.

RECREATION

Recreational facilities include gymnasias, an indoor ice skating rink, tennis courts, an indoor swimming pool, athletic fields and areas for activities ranging from softball to horseshoe pitching.

Ohio University is a member of the Mid-American Conference and participates in intercollegiate competition in football, basketball, baseball, tennis, swimming, golf, track, wrestling and cross-country.

The Baker University Center provides facilities, services and programming for students, faculty, staff, visitors and members of the Ohio University-Athens community. The building contains lounges, a large ballroom, dining rooms, snack bars, television and conference rooms and areas for bowling, billiards and cards. Any type of food catering service can be provided. The center operates the all-campus Information Center and also provides the staff and facilities for the Rumor Control Center if it is needed. The office of the director of the center is open to provide assistance and guidance to individuals and groups desiring to use the center.

Many of the state's most scenic areas are located near Athens and are used as weekend retreats by students and faculty. Included are Dow Lake, located just east of Athens in a 200-acre state park and used by the University for educational and research projects; Lake Hope, located in Zaleski State Forest about 25 miles from Athens; the caves and gorges of the Hocking Hills State Park area; Burr Oak Lake, Glouster, and Lake Snowdon, Albany.

ADMISSION, FEES AND REGULATIONS

ADMISSION

The prospective student submits to the Graduate College application forms, a \$10 nonrefundable application fee, official transcripts as indicated, official test scores as required by the department and any other pertinent information in support of the application. He or she provides for letters of recommendation (if required) to be sent to the department to which application is made.

Copies of the above materials are forwarded by the Graduate College to the department of the student's choice, and the departmental graduate committee recommends admission or denial to the Graduate College.

The Graduate College considers the departmental recommendation and informs the student by letter that admission is being granted (with any relative conditions) or that admission is being denied.

Approval for admission to graduate study will be based on possession of a bachelor's degree from an accredited college or university and such factors as the following: undergraduate scholastic point-hour ratio (both overall and in the proposed graduate major), selection of courses, pattern of grades, recommendations, test scores, work experience and other matters which are relevant. Each department will give appropriate weight to the factors pertinent to its academic field.

Supporting evidence of the student's ability in the form of the Graduate Record Examination, Graduate Management Admission Test, Miller Analogies Test or other college ability tests may be required.* The student should consult with the specific department about necessary tests.

A foreign student applicant whose native language is not English must submit evidence of proficiency in the English language adequate to use it as the medium of instruction. The Graduate College will accept the English Test of the University of Michigan English Lan-

guage Institute, Ann Arbor, Michigan, U.S.A., or the Test of English as a Foreign Language (TOEFL) as an evaluation of proficiency in English.

Any student who submits a TOEFL score below 550 (or has not demonstrated English proficiency through another approved mechanism or test) and who is admissible to the Graduate College on all other criteria is required to enroll in the Ohio Program of Intensive English until the student has satisfied criteria for taking regular graduate level courses.

Issuance of I-20 forms is made no later than 30 days prior to the first day of the quarter.

A student with a bachelor's degree from an unaccredited institution usually will be required to supplement the undergraduate record with a satisfactory score on an acceptable standard college ability test.*

Application for admission consists of the presentation of application blanks filled in by the applicant and an official transcript from each school attended (*sent directly to the Graduate College*). Subsequent to notice of admission the applicant will receive a medical history blank to be filled in by the applicant. The form should be sent to the Ohio University Health Center.

*Those who have taken any of these tests are urged to have their scores reported to the Graduate College, Ohio University, Athens, Ohio 45701.

Further information about the Graduate Record Examination (given in January, February, April, June, October and December) or the Graduate Management Admission Test (given in January, March, July, November) may be obtained by writing to the Educational Testing Service, Box 955, Princeton, N.J. 08540. Applicants in the West Coast region should write to the E.T.S. Box 1502, Berkeley, Calif. 94701. Students on the Ohio University campus may obtain test application forms from the Graduate College.

Information on the Miller Analogies Test may be obtained from The Psychological Corporation, 304 E. 45th St., New York, N.Y. 10017. This test may be taken at Ohio University through the Counseling and Psychological Services, Hudson Health Center.

Applications for admission, together with the \$10 application fee (a check or money order payable to Ohio University), and supporting credentials, including official transcripts of all academic work, should be received at least three weeks before registration for the quarter or summer term in which the student wishes to begin graduate study. Some departments have earlier deadlines for admittance and financial support. Consult the section on Major Fields of Graduate Study in this bulletin for the specific departmental deadlines.

All documents received by the University in connection with applications for admission become the property of Ohio University. Under no circumstances will they be returned to the applicant or forwarded to any agency or other college or university. Documents of students who are admitted to the Graduate College but who fail to enroll for the quarter for which they are admitted are destroyed. Materials will be held, however, for a maximum of one year if the student notifies the Graduate College in writing of a postponement of enrollment.

All correspondence pertaining to the admission of a student to the Graduate College should be addressed to the Dean of the Graduate College, Graduate Building, Ohio University, Athens, Ohio 45701.

SPECIAL NOTE FOR STUDENTS IN EDUCATION: Any student who has earned a master's degree in education at Ohio University and who plans to take additional work in education must reapply through the Graduate College office for admission.

Graduate Study as a Senior

A student who is within nine hours of completing all requirements for the bachelor's degree at Ohio University may take courses carrying graduate credit, provided he or she otherwise meets the requirements for admission and secures the written recommendation of the dean of his or her college and the graduate chairman of his or her major department and has the approval of the dean of the Graduate College. This privilege also may be extended to a well-qualified senior of another university who has nine or fewer hours to complete for the bachelor's degree. Request for this privilege should be made in advance of registration through the Graduate College Office. Students who are seniors for graduate credit are not eligible for graduate support in the form of scholarships or associateships.

Early Admission to the Graduate College

With the written endorsement of the chairman and graduate chairman of his or her major department and the approval of the dean of the Graduate College, a superior student who will have completed all undergraduate requirements except the total hour requirement (as of the time of proposed entry into the Graduate College) may be admitted to a degree program with regular status and may enroll in graduate courses for graduate credit. The courses may be used to satisfy both undergraduate and graduate degree requirements.

A student seeking early admission to the Graduate College should start the application process at least three

weeks prior to the beginning of the quarter in which he or she wishes to enroll.

All students, regardless of the type of admission, will be on a provisional status until the final transcript requirement has been satisfied.

REGISTRATION FEES*

Payment of all assessed fees at the times designated is prerequisite to official enrollment. Checks and money orders should be made payable to Ohio University in the exact amount of the fees. Postdated checks are not acceptable. Checks not paid on presentation to the bank will automatically cancel any receipts given and result in assessment of penalties. It is important that the student retain all fee receipts.

Ohio University reserves the right to make, without prior notice, any fee adjustments that may become necessary.

Quarter Fees

The comprehensive fee* covers an instructional fee, a general fee and a tuition surcharge for nonresidents.

Hours	Resident of Ohio	Non- Resident
1	\$ 39	\$ 89
2	78	178
3	117	267
4	156	356
5	195	445
6	234	534
7	273	623
8	312	712
9 to 16	325	725
over hours, each	27	52

Auditors pay fees in full as above.

Summer Session Fees

See the summer session bulletin and schedule of classes for complete details.

Miscellaneous Fees

Admission application filing fee (nonreturnable) ..	\$10
Late registration	20
Change of course	2
Duplicate official forms, fee receipts, bill statement, grade report, etc.	2
Graduation—	
Application for master's degree	20
Application for PhD degree	50
Reapplication for master's or PhD degree	5
Transcript of record	1

Refund of Fees

Withdrawal from a course by change order within the approved period specified in the calendar entitles a

*All fees are subject to change.

student to an 80 percent refund if it results in a fee change.

Official withdrawal from the University during a quarter or term entitles the student to a refund of 80 percent of the comprehensive fee during the period specified in the calendar. There is no refund after this date.

Special pro rata refund regulations apply to students inducted into military service.

Refunds are issued 30 days after date of official withdrawal.

GENERAL REGULATIONS

Registration

Details concerning the registration procedure are given in the schedule of classes which may be obtained at the Office of Registration before each registration and by specific instructions to graduate students released by the Graduate College.

A former graduate student who wishes to reenroll after an absence of one quarter (except summer) must request a reenrollment form one month in advance of the quarter in which he or she intends to register.

A graduate student who has attended a regional campus and who desires to enroll at the Athens campus, or vice versa, must fill out a relocation form one month in advance of registration. These forms are available from administrative offices at each of the campuses.

A student who resumes study at Ohio University after an absence of two or more years will be required to submit a new medical history.

Late Registration and Late Payment Policy

Unless in the judgment of the registrar a student's registration has been delayed due to the convenience of the University, a \$20 *late registration fee* will be assessed each late registrant beginning with the first Monday after the opening day of classes each quarter. No student registration forms will be accepted after the tenth calendar day of the quarter following the opening day of classes.

A late payment fee would normally not be applicable since payment is a prerequisite to registration. However, in addition to other service charges, the Bursar's Office will assess a \$20 *late payment fee* on all checks returned by a bank after the official payment deadline.

Change Orders

A student who finds it necessary to add a course, withdraw from a course or correct his or her registration, requests a change order in the office of the Graduate College. The order does not go into effect until it has been approved by the dean of the Graduate College and submitted to the Office of Registration. It must be in the Office of Registration within 21 hours after it is initiated.

Change orders will not be accepted by the Graduate College after the Friday preceding the last week of classes for any quarter.

Auditing

Courses that a student wishes to audit must be marked *audit* on registration forms. The fee for auditing is the same as for credit. Changes from audit to credit or from credit to audit are made by change order during the period when changes are permitted. With the permission of the instructor, a full-time student has the privilege of visiting classes in which he or she is not registered.

A student registering for *Audit* is expected to attend classes consistent with the instructor's attendance policy. Failure to do so will result in removal of the audit from the student's record. If this action results in a change of fees, the official University policy on refund of registration fees will be applied.

Withdrawal from the University

Application for withdrawal is made on a withdrawal form obtained from the Graduate College office. When the request for withdrawal has been approved by the dean of the Graduate College, the order is referred to the Office of Student Records which grants an official withdrawal after it has been determined that all obligations to the University have been met. A refund of registration fees is made according to regulations.

A student who withdraws after the 21st day of any quarter will establish a *W/F* grade in each course.

A student who fails to complete the work of a course and does not complete an authorized withdrawal shall have an *F* reported for that course.

Special provisions in respect to credits and refunds apply to students who withdraw because of induction into military service.

Change of Address

Forms for reporting a change of home or Athens address are available in the Office of Student Records. A student is responsible for any University office communication sent to the last address reported to the Office of Student Records.

Motor Vehicles

University policy and regulations state that no student shall drive, operate, park or otherwise use a motor vehicle on the land and property of the University without first registering said motor vehicle with the director of security. This regulation includes student-owned vehicles belonging to parents or relatives (including wives or husbands), vehicles belonging to friends, rental agencies, and dealers.

Upon registration the student will be given a decal which must be attached to the vehicle as described in the brochure issued with the decal.

Failure to register a motor vehicle as provided by the regulations will result in a fine and or disciplinary action.

Two-wheeled motor vehicles are not permitted to operate on University property at any time and are permitted to park only in areas specifically designated as motorcycle parking.

CLASSIFICATION OF GRADUATE STUDENTS

Ohio University has three graduate student categories: *degree*, *nondegree* and *transient*.

Degree

1. Those students approved by the major department and the dean of the Graduate College for unqualified admission to a graduate degree program are granted *regular* (or unconditional) *status*.

2. Those students who have some deficiency in entrance requirements may be approved by the department and the dean of the Graduate College for admission with *conditional status*. Students in this category may achieve regular status after the satisfactory completion of a prescribed program of study to remove any academic deficiencies.

Undergraduate courses which are required of a graduate student as further preparation for admission to the graduate program itself may be taken either for credit or for audit and will not count in determining the student's grade point average for the degree program, although they may be used by the department in evaluating the student's capability for graduate work. The department will specify whether the student should take preparatory courses for audit or for credit.

Nondegree

A student who wishes to take a graduate course or to receive graduate credit for a workshop or an institute, with no intention of working toward a graduate degree at Ohio University, must apply for admission to the Graduate College in the regular manner but as a *non-degree* student. Approval for such admission does not constitute admission to the Graduate College to a degree program, and the credit earned cannot normally be applied toward a graduate degree at Ohio University. In exceptional cases the appropriate academic departments will determine which courses (if any) taken while in a nondegree status may be applied subsequently toward degree requirements.

No more than 18 hours of academic work may be taken by a nondegree student.

Transient

A graduate student currently working toward a degree at another university may earn graduate credit at Ohio University to be transferred to the other university. The student may be admitted to a *transient* status by submitting an application and presenting an official statement of good standing from the *dean of the graduate school* in which he or she is enrolled. Such a student must request permission *each* quarter to register at Ohio University as a transient student.

Ohio University Residency Determination and Reclassification Policy

A. Authority, Effective Date

1. It is the intent of the Ohio University Board of Trustees in promulgating this policy to exclude from treatment as residents, as that term is applied here, those persons who are present in the

State of Ohio primarily for the purpose of receiving the benefit of a state supported education while insuring that that same benefit is conferred on all bona fide domiciliaries of this State whose permanent residence and legal citizenship is in Ohio, and whose actual source of financial support is subject to Ohio taxation.

2. This policy is adopted pursuant to the power vested in the Ohio University Board of Trustees under chapters 3337 and 3345 of the Revised Code and Am. Sub. H.B. 155.
3. This policy shall be effective as of September 1, 1975, and shall continue in effect until its rescission, amendment, or adoption of residency rules by the Ohio Board of Regents.

B. For purposes of this policy

1. A resident of Ohio "for all other legal purposes" shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability under Section 5747.02 of the Revised Code; provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.
2. "Financial support" as used in this rule, shall not include grants, scholarships and awards from persons or entities which are not related to the recipient.
3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the state of Ohio.

C. General Residency for Subsidy and Tuition Surcharge Purposes

The following persons shall be classified as residents of the State of Ohio for subsidy and tuition surcharge purposes:

1. Dependent students, at least one of whose parents or legal guardian has been a resident of the State of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.
2. Persons who have resided in Ohio for all other legal purposes for at least 12 consecutive months preceding their enrollment in an institution of higher education and who are not receiving, and have not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
3. Persons who reside and are gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.

D. Specific Exceptions and Circumstances

1. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
 2. A person who enters upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.
 3. Any alien holding an immigration visa shall be considered a resident of the State of Ohio for state subsidy and tuition surcharge purposes in the same manner as any other student.
 4. No person holding a student or other temporary visa shall be eligible for Ohio residency for these purposes.
 5. A dependent person classified as a resident of Ohio who is enrolled in an institution of higher education when his or her parents or legal guardian remove their residency from the State of Ohio, shall be considered a resident of Ohio for these purposes during continuous full-time enrollment and until his or her completion of any one academic degree program.
 6. Any person once classified as a nonresident, upon the completion of 12 consecutive months of residency in Ohio for all other legal purposes, may apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident.
- Evidentiary determinations under this Rule shall be made by the institution which may require, among other things, the submission of information regarding the sources of a student's actual financial support to that end.
7. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.

ACADEMIC REGULATIONS**Assignment of Advisor**

A student who qualifies for admission to the Graduate College confers with the departmental chairman or the chairman of the departmental graduate committee. A faculty advisor will be assigned who will assist the student in planning a program of study.

Grading System

Academic work at Ohio University is evaluated on a 12-point grading scale. A grade of A equals 4.00; A- equals 3.67; B+ equals 3.33; B equals 3.00; B- equals 2.67; C+ equals 2.33; C equals 2.00; C- equals

1.67; D+ equals 1.33; D equals 1.00; D- equals 0.67 and F equals 0.00.

Letter grades or *CR* (credit) may be given for formal courses, readings, independent studies, research, etc. Although letter grades may be given for research, grades in research and in formal courses will be computed separately. A 3.0 average will be required in each of the two categories.

A final grade of *GR* may be given for thesis or dissertation. Such grades will not be used to compute the point average. A final grade for thesis or dissertation is not recorded until the oral examination is completed, the report filed in the Graduate College and the Office of Student Records and the copies of the thesis or dissertation are deposited.

A grade of *NR* means the instructor has not submitted a grade, or that there has been a processing error. The student should check with the instructor; if a grade was submitted, the student should go to the Office of Student Records to learn what is necessary to clear up the problem.

An *administrative incomplete (I*)* is given by the Office of Student Records when a student fails to drop officially a course for which he or she has registered. Until removed, an administrative incomplete is computed as an *F* in calculation of the grade point average.

An incomplete (*I*) indicates that a student has made progress in a course but has not finished the work required to receive a letter grade. An *I* symbol is not counted in quarter hours attempted, hours earned or quality points until a letter grade is reported. If neither a letter grade nor notification from the instructor for an extension of time is received by the Office of Student Records, the *I* symbol reverts to an *F* letter grade six weeks into the next quarter the student is enrolled. Requests from the instructor for extension of time must not exceed the end of the next quarter enrolled. All *I* symbols must be removed prior to graduation.

Standards of Work

The minimum is a grade point average of 3.0 (*B*) on all courses counted toward satisfaction of degree requirements. No grade below *C* (2.0) can be used to satisfy degree requirements. A department may establish more rigorous standards.

A grade of *CR* (credit), *PR* (progress) or other such approved grades may be given. Such grades will not be counted in computing the grade point average.

Courses of Graduate Study

Credit toward a graduate degree is given for the completion of courses designed for graduate students. All courses which are numbered 500-699 are master's level courses and those numbered 700-899 are post-master's or doctoral level.

Application for Graduation

The student must apply for graduation through the Office of Student Records and pay the application fee by the date indicated in the University calendar. Failure to meet the requirements for graduation requires reapplication for the quarter in which requirements will be completed.

A list of deadlines which candidates must meet is available in the Graduate College Office.

A student must be registered at the graduate level in the quarter in which the degree is received, or in *any* quarter in which he or she is using the facilities of the University or in which the University (a faculty member) is affording some service, such as an examination, grading a paper, reading a thesis or dissertation, giving advice on the thesis or dissertation, etc. A master's student must register for a minimum of one hour and a doctoral student for a minimum of two hours on registration day. *Any exception must be approved by the Graduate College.*

Granting of Degrees and Commencement

Degrees are granted at the close of each quarter. The diploma is mailed to each student as soon as it can be ascertained that he or she has completed all requirements. *All work to be applied toward meeting degree requirements must be submitted no later than the last day of classes of the quarter in which the student expects to graduate.*

The annual commencement is held at the close of the spring quarter in June. Master's degree candidates for spring and summer quarter graduation and recipients of master's degrees in the preceding fall and winter quarters are invited to attend the exercises. PhD graduates spring quarter and recipients of the doctoral degree the preceding summer, fall and winter quarters are invited to attend the exercises.

Academic costumes with the appropriate hoods are worn by candidates at the commencement exercises. Candidates will make their own arrangements for rental of the appropriate academic costumes through the campus agency provided for this service. The doctoral hood is bestowed by the University upon doctoral students who attend the annual graduation exercises in June and need not be rented.

FINANCIAL AIDS

Graduate Associates, Graduate Staff Associates, Graduate Research Associates, Graduate Teaching Associates

A number of graduate associateships, graduate staff associateships, graduate research associateships and graduate teaching associateships are available in the Graduate College of Ohio University. Persons receiving these appointments are selected on the basis of merit from students who have received the baccalaureate and/or master's degrees from approved institutions and who wish to pursue work leading to graduate degrees.

Graduate contracts normally become effective the first day of each quarter, and normally end on the official closing date of the quarter. Individual graduate departments may, at their discretion, request that new departmental associates report for orientation purposes up to a week prior to the beginning of the quarter.

Graduate Teaching Associates carry teaching responsibilities up to a maximum of 15 hours a week for at least two quarters of the academic year and an academic course load of nine to 16 graduate credits a quarter. Stipends range from \$2,640 to \$4,500 for three quarters

(i.e. from September to June) and from \$3,520 to \$5,100 for a 12-month appointment. This appointment requires a payment of only \$55 per quarter incidental fee. For those on a September-June appointment, partial fees are granted for the summer quarters preceding and following the periods covered by the appointment.

A graduate teaching associate continuing study beyond the first year is eligible for consideration for reappointment to the associateship. The graduate teaching associate who has completed three quarters of service with an exceptionally good academic record may, on the recommendation of the department, be reappointed for a second year at an increased stipend with partial fees.

Graduate Research Associates engage in work on a research project to a maximum of 15 hours a week and an academic course load of nine to 16 graduate credits per quarter. In general, stipends and partial fees are the same as for a graduate teaching associate. These appointments are available mainly in the science and engineering areas.

Graduate Associates fulfill academic responsibilities and service equal to a maximum of 15 hours per week and an academic course load of nine to 16 graduate credits per quarter. The stipends are the same for the September-June period (\$2,640 to \$4,500) and for a 12-month period (\$3,520 to \$5,100) with the same partial fees, as for a graduate teaching associate. The service called for by this type of appointment entails departmental administrative, teaching and research duties which are typically performed for and under the supervision of a faculty member and which may be considered an integral part of academic apprenticeship. These appointments are available in all departments.

Graduate Staff Associates engage in duties varying from residence hall directorships to service in the library and University administrative offices. The academic course load is nine to 16 graduate credits per quarter. Students work a maximum of 15 hours per week and stipends are generally the same as for other graduate-contract appointees. Resident directorships carry stipends of \$2,200 to \$3,000 plus furnished apartment and board. These appointments are not funded from academic department resources.

Appointments in the residence halls are made on the recommendation of the director of residence life. These appointments are available to single or married men and women as resident directors in the residence halls. Compensation includes a furnished apartment and board for the appointee (and for his or her family, if married) and a stipend plus partial fees. The resident director supervises functions of the residence hall and coordinates responsibilities of the senior assistants and undergraduate resident assistants assigned to work with him or her. The course load is nine to 16 hours per quarter. Application for these appointments is made by letter to both the Graduate College and the director of residence life.

Traineeships and Fellowships

Ohio University has a limited number of named fellowships such as the Hiram Roy Wilson Fellowships in Chemistry, Botany and Zoology. In addition, a few fellowships are awarded by the Graduate College. The

University also participates in available federal fellowship programs.

Scholarships

An incoming graduate student who has maintained a high undergraduate average, or a graduate student who has maintained at least a 3.0 graduate average, may apply for a University scholarship. These scholarships require full-time study (15 graduate credits per quarter) and pay the comprehensive fee, with the exception of a \$55 incidental fee each quarter. Information may be obtained by addressing the *Graduate College, Ohio University, Athens, Ohio 45701*.

Questions about graduate appointments and graduate scholarships should be directed to the graduate chairman of the student's department.

Loan Assistance

International graduate students are ineligible for financial aid administered through the Office of Student Financial Aids. The general pattern of eligibility with respect to citizenship is that a student must be a national of the United States. Students bearing temporary visas (or F1/J1 visas) are not eligible for further consideration.

NATIONAL DIRECT STUDENT LOAN PROGRAM

Graduate students may apply for a National Direct Student Loan for up to \$2,500 per academic year as long as the total amount borrowed does not exceed \$10,000. All students must apply prior to April 15 for academic year consideration. Awards will be made during the summer after such time as students are accepted for full-time enrollment in a graduate program.

Interest at a three percent simple rate begins nine months after graduation or termination of study. Repayment of the loan is required on a quarterly basis over a ten-year period beginning one year from the date the borrower graduates or leaves Ohio University. Borrowers who become teachers in *elementary* or *secondary* schools designated by the U.S. Commissioner of Education as having high enrollments of students from low-income families are then eligible to receive up to 100 percent cancellation of the loan plus interest on a graduated basis over a five-year period. (Only a limited number of schools are listed.) Some full-time teachers of handicapped children may also be eligible for the cancellation benefits. College-level teaching does not qualify. Any outstanding principal or interest may be cancelled upon death or permanent and total disability of the borrower.

The borrower may defer payment of the loan plus interest while maintaining at least half-time student status at an institution of higher education or at a comparable institution outside of the United States if approved by the Commissioner of Education. Deferment may also be granted for up to three years if the borrower is on full-time active duty as a member of the Armed Forces or is in service through the Peace Corps or VISTA.

All loans must be evidenced by a promissory note and all students are required to have a cosigner. Applications are available from January 2 through April 15.

For additional information concerning the NDSL program and for a graduate student financial aid appli-

cation write *Director of Student Financial Aids, Chubb Hall, Ohio University, Athens, Ohio 45701*.

GUARANTEED LOAN PROGRAMS

Graduate students are eligible to borrow up to \$2,500 per academic year under the federally subsidized loan programs sponsored by various lending agencies. In most cases, no interest is charged until approximately six months from the date the student either graduates or leaves school. Currently, the interest rate to the borrower is seven percent per year after the six-month grace period terminates. Repayment periods vary in length from one to ten years depending upon the amount of the loan.

Students interested in this type of loan should contact their area banks, savings and loan associations, credit unions, etc., which may participate in this program, to obtain applications. *Completed applications should be forwarded to the Director of Student Loans, Chubb Hall, Ohio University, Athens, Ohio 45701* following which they will be certified for enrollment and returned to the lending agency. Because new regulations are expected, students should check with their lending agencies for current information.

COLLEGE WORK-STUDY PROGRAM

The present College Work-Study Program, originally part of the Economic Education Opportunity Act of 1964, was amended and extended by the Higher Education Act of 1965 when student eligibility was expanded to include all eligible students who are in need of earnings from part-time employment to pursue their studies. Eligibility is based on financial need as determined by a Parent's Confidential Statement (for dependent students) or Student Financial Statement (for independent students).

Applications for participation in this program should be filed with the Office of Student Financial Aids on or before April 15, 1976 for the 1976-77 academic year; and, if funds are available, after November 15 during the 1976-77 academic year. The number of hours that a student is permitted to work is determined by the amount of the award. On the average, work-study graduate assistants work 15 hours a week. The work performed is generally consistent with other gainful employment at the graduate level. The rate of compensation is \$2.50-\$3.50 per hour and the academic year awards are determined by demonstrated financial need. Most awards are \$500 per quarter.

Unless the applicant is classified as an independent student, according to federal regulations, enrollment at the graduate level does not, in and of itself, alter the responsibility of the institution to continue to take into reasonable consideration the resources of the parents. Likewise, if a student is married, the spouse's income must be considered as a prime source of support for the student's educational costs.

For additional information concerning the College Work-Study Program and graduate student financial aid applications, write *Director of Student Financial Aids, Chubb Hall, Ohio University, Athens, Ohio 45701* or call (614) 594-5471.

THE GRADUATE PROGRAMS

Graduate degrees are granted in the following areas:

Accounting	Curriculum and Instruction	International Affairs
*Applied Behavioral Sciences and Educational Leadership	*Elementary Education	*Interpersonal Communication
*Educational Administration	*Secondary Education	Journalism
*Guidance, Counseling and Student Personnel	Special Education	Linguistics
Art	Economic Education	*Mass Communication
Art Education	Economics	*Mathematics
Art History	*Electrical Engineering	Mechanical Engineering
Ceramics	*English Language and Literature	Music
Painting	Environmental Sciences	Applied Music
Photography	Film	Music Education
Printmaking	French	Music History and Literature
Sculpture	Geography	Music Theory and Composition
*Botany	Geology	Philosophy
Business Administration	German	*Physics
*Chemical Engineering	Government	*Psychology
*Chemistry	Health, Physical Education and Recreation	Radio-Television
Civil Engineering	*Hearing and Speech Sciences	Sociology
*Comparative Arts	*History	Spanish
	Home Economics	Theater
	Industrial and Systems Engineering	*Zoology and Microbiology
	Industrial Technology	*Individual Programs of Study
*PhD granting areas		

THE MASTER'S DEGREE

Residence and Credit

At least 45 quarter hours of credit are required for the master's degree. Additional hours may be required by individual departments. A maximum of 12 quarter hours of graduate credit with *A* or *B* grades may be accepted *by transfer* from accredited institutions which offer the master's degree provided the transferred coursework is acceptable to the student's advisor and *is not more than five years old*. Credit for courses taken by correspondence is not accepted toward the degree. At least 33 quarter hours of graduate credit must be earned on the campuses of Ohio University. *The nature of Ohio University's master's degree programs may make it appropriate for students enrolled in certain programs to spend a given period of time in residence. It is the student's responsibility to ascertain whether a period of residence is required in the student's major field and to plan a program of study accordingly by consulting with the academic advisor or the chairman of the departmental graduate committee.* A graduate student who is employed full-time may, with the approval of his or her major advisor and the dean of the Graduate College, carry no more than one-half of a full-time course load as defined by the academic department.

A student seeking the master's degree under either the thesis or nonthesis plan *must be officially registered for at least one quarter hour of credit in the quarter in which he or she receives the degree.* Any exceptions must be approved by the Graduate College. The advisor may recom-

mend that registration be for more than the stipulated one hour.

Thesis Requirement

The candidate prepares the thesis under the guidance of his or her thesis director on a subject in the field of his or her major work. The thesis provides an opportunity for the student to formulate and express the results of research and study. The thesis requirement may be met by the presentation of the results of a creative activity in literature, music, fine arts or industrial arts, together with a written essay indicating the purpose, procedure, problems and bibliography involved in the work. *Format*, which gives certain directions and suggestions about style, is obtained in the office of the Graduate College. Each department, however, will prescribe the *specific style manual* to be followed by its students.

The student and his or her thesis director are responsible for the maintenance of accepted standards of grammar, sentence structure, punctuation, form and scholarly style in the thesis. It is recommended that the thesis be put into final typed form by one who has had experience in thesis typing.

The final copies of the thesis must be distributed to the members of the student's examining committee *at least two weeks before the date of the oral examination* to allow adequate review of the manuscript prior to the examination.

After the thesis is approved by the Graduate College and not later than the date indicated in the Graduate College calendar, the candidate files

two unbound copies of the thesis with the University librarian and one bound copy of the thesis in the office of the Graduate College. The two copies filed with the University librarian are bound and retained in the library, and the copy filed in the Graduate College is presented to the school or department in which the work has been done.

If the student desires a bound copy of the thesis, arrangements for this service can be made through the library.

Programs of Study and Student Load

A program of study approved by the student's advisor and by the graduate committee of his or her department should be developed early in the student's first graduate quarter.

Since graduate work implies advanced study and some degree of specialization, a certain amount of undergraduate preparation in a subject or field of study is presupposed before graduate study may be undertaken in that subject or field. In most departments a minimum of 27 quarter hours of undergraduate work is required for the major. The student is referred to the requirements listed by departments.

The normal full-time academic load for a graduate student is 15 credit hours per quarter. A student taking an academic load greater than 16 hours must secure written permission to do so from his or her advisor and from the dean of the Graduate College.

Examinations

A *major examination* may be required, at the discretion of the department. The nature and timing of the examination is determined by the department.

An *oral thesis examination*, for those submitting master's theses, may be given not later than the date indicated in the Graduate College calendar. The student and his or her thesis director, in consultation with members of the examining committee, set a time and place for the examination. The examining committee is composed of the director of the thesis as chairman and two or more additional faculty members. Results of the examination are reported to the Graduate College office and to the Office of Student Records on forms furnished by the Graduate College. This report should be filed as soon as *final approval* of the thesis is given.

Time Limit for the Master's Program

The maximum time allowed between the date when a student first registers for graduate study and the date when the requirements for the master's degree are completed is six calendar years. Students who do not complete their requirements within the six-year period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

DOCTOR OF PHILOSOPHY DEGREE

The doctor's degree is granted on the basis of evidence that the candidate has achieved a high level of scholarship and proficiency in research rather than solely on the basis of successful completion of a prescribed amount of coursework. The student's competence and ability to work independently and to write creatively are established by qualifying and comprehensive examinations and the quality of a dissertation submitted as an account of his or her original research.

Residence and Credit

A minimum of nine quarters of study and research beyond the bachelor's degree is normally needed to meet the requirements of the doctor's degree. At least three academic quarters of the doctoral program shall be in *continuous residence on the Athens campus of Ohio University in an institutional full-time status*. The continuous residence requirement applies to the period of graduate study following the completion of the master's degree or the completion of the equivalent of approximately 45 quarter hours of graduate study.

Transfer of Credit

The amount of credit accepted toward the doctorate by transfer from another university will be determined by the graduate committee of the department concerned and the dean of the Graduate College.

Program of Study and Advisory Committee

The graduate committee of the student's department will assign an advisor and an advisory committee, who will outline the proposed program of study for the degree. Graduate work completed at another university will be considered by the departmental graduate committee and the student's advisory committee in the development of the student's program of study.

The personnel of the student's advisory committee is reported to the dean of the Graduate College and is made a matter of the student's academic record.

As soon as the student begins to plan his or her dissertation, the departmental graduate committee chairman will recommend to the dean of the Graduate College a faculty member to serve on the dissertation committee as a Graduate College representative.

Time Limit for PhD Program

The doctoral program of study must be completed within seven calendar years of the date of its initiation as determined by the individual department and recorded in the Graduate College, or within three calendar years of the date of the student's admission to candidacy, whichever occurs first.

Students who do not complete requirements for the degree within the given period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress. An extension of time is automatically granted to students whose programs have been interrupted by military service.

Comprehensive Examination

When coursework is virtually completed, and upon the recommendation of the advisory committee, the student takes a comprehensive examination, which is given for the purpose of establishing his or her mastery of the fields of specialization and readiness for advanced research. The results of the examination must be reported to the Graduate College within *one week* on a form provided by the Graduate College.

Scholarly Tool Requirement

Each department shall determine the auxiliary research tools needed by candidates for the PhD degree. Competence will be determined by standards and methods established by the individual departments.

Each student who expects to demonstrate proficiency in one of the scholarly tools in which examinations are arranged by the Graduate College, (e.g., statistics, computer science, etc.) must file an appropriate *Intent Form*. These forms are available from and should be filed with the Graduate College. The student must be registered for a minimum of two hours in the quarter in which the examination is taken.

The French, German, Russian and Spanish proficiency examinations of the Educational Testing Service are given at Ohio University several times during the year. Information and application forms may be obtained at the Graduate College Office. Application forms are returned to the Graduate College Office, where the \$10 nonrefundable registration fee is paid.

Admission to Candidacy

Admission to candidacy is achieved after the student has completed the following steps: (1) formation of the dissertation committee (including the Graduate College representative) and approval of the research proposal by this committee; (2) satisfaction of all required scholarly disciplines, and (3) successful completion of the comprehensive examination.

Appropriate forms for indicating completion of the above are available from and are filed in the Graduate College Office.

Dissertation

A dissertation, which is the scholarly account of research in a new area of knowledge, is submitted by each candidate. The student expecting to receive the PhD degree must be registered for at least two-quarter hours of credit in the quarter in which the degree is received. The advisor may

recommend that registration be for more than the stipulated two hours. All exceptions must be approved by the Graduate College.

An *oral examination* on the dissertation shall be given not later than the date indicated in the Graduate College calendar. The examining committee shall be composed of the student's doctoral committee, with the dissertation director as chairman, and a representative of the Graduate College as appointed by the dean of the Graduate College. The final arrangements for the examination shall be completed *through the Graduate College Office at least ten days prior to the examination*. Details of the examination, including time and place, will be sent to the examiners and to the student from the Graduate College Office.

No later than two weeks prior to the date of the oral examination at least three copies of the *finished* manuscript in final form must be distributed to members of the examining committee. A xerox or original copy is delivered by the student to the representative of the Graduate College who will serve on the examining committee.

By the date indicated in the Graduate College calendar of the quarter in which the candidate receives the degree, all approved copies of the dissertation, together with two copies of an abstract of 500 to 600 words (signed by the dissertation director) are submitted to the dean of the Graduate College for final approval.

At this time copies as indicated in *Format* and one copy of the abstract are deposited in the University library.

A copy of the dissertation will be sent to University Microfilms, Inc. for editing and microfilming, and will be made available for use by interlibrary exchange. It is then returned to the Ohio University library. The abstract will be published in *Dissertation Abstracts* by University Microfilms, Inc., Ann Arbor, Michigan. One copy of the dissertation will be bound as directed and given to the student's major department (after the degree is conferred).

Second Degrees

A student wishing to pursue a second master's degree may do so under the following conditions. In every case it is the responsibility of the student to inform the departments and the Graduate College of the intent to file formal application for admission to a second degree program. When two or more degrees are pursued, the details of each degree program must be approved in writing by all departments concerned and by the Graduate College in advance of admission to the additional program or programs. Whether the credit is earned at Ohio University or at another institution, no more than 12 quarter hours may be applied toward both degrees.

A student desiring to pursue a second PhD degree must have his or her plan and program approved by the appropriate departments and by the Graduate College. A minimum of one year of residency is required for *each* degree program.

MAJOR FIELDS OF GRADUATE STUDY

For further information regarding programs, courses, facilities, etc., write to
the Chairman of the Graduate Committee (of the department),
Ohio University, Athens, Ohio 45701

ACCOUNTING

The master of science accounting degree provides for specialized education required for those entering the accounting profession. Accounting is a separate profession, with its own professional organizations and code of ethics, much like those of medicine and law. A student who is interested in accounting and who wishes to work toward an advanced degree will obviously seek out a program which is oriented toward his or her chosen profession.

The program is designed primarily for graduates of nonbusiness colleges; however, the graduate with a nonaccounting business major may modify the program to suit special needs. The MS program consists of 24 courses divided into two phases. Any or all of the 12 business foundation courses may be waived on the basis of undergraduate preparation, examination or relevant experience. The first phase courses are Economics I and II, Accounting Principles I and II, Legal Environment of Business, Business Finance, Management, Production, Mathematical Foundations, Statistical Foundations, and Elements of Marketing.

All MS candidates must take 12 courses in the second phase. These include six advanced courses in accounting, one course in quantitative methods, one course in advanced finance and four elective courses in any approved field. A thesis is not required for the MS degree, but may be elected. For MS candidates especially well prepared or those electing to extend their programs, an opportunity exists for a three-month internship in the office of a public accounting firm.

Students who have had several courses in accounting beyond principles at the undergraduate level are encouraged to enter the master of business administration program described subsequently, taking elective work in accounting, if necessary, to round out professional requirements.

As part of the admissions procedure, all applicants must submit scores for the Graduate Management Admission Test (GMAT), administered by the Educational Testing Service, Princeton, New Jersey 08540. In addition, applicants from countries where English is not the native language must submit scores for the English Language Test of the English Language Institute, University of Michigan, Ann Arbor, Michigan or the Test of English as a Foreign Language (TOEFL).

APPLIED BEHAVIORAL SCIENCES AND EDUCATIONAL LEADERSHIP

The School of Applied Behavioral Sciences and Educational Leadership is composed of the three former departments of Educational Administration, Educational Research and Scientific Techniques, and Guidance, Counseling and Student Personnel. The three program areas, almost exclusively graduate, are oriented toward the preparation of nonteaching, intervention and leadership roles in educational enterprises or higher education positions related to the preparation of personnel to assume these roles.

Master's degree programs are available in guidance, counseling and student personnel for those who wish to be elementary or secondary school counselors or student personnel workers. A programmatic emphasis in community or noneducational settings may also be developed. The master's degree in educational administration provides

for specialization in the elementary, secondary or middle school principalship as well as general educational administration.

The educational specialist's certificate requires a year of study beyond the master's degree and offers specializations in the superintendency (superintendent of schools, assistant superintendent for business administration or assistant superintendent for personnel administration) and the principalship (elementary, middle school and secondary levels).

The PhD program in guidance, counseling and student personnel provides for specializations in guidance and counseling, counselor education and student personnel. In educational administration the PhD program offers specializations in the principalship, the superintendency and higher education administration. The school also provides a comprehensive sequence of courses in the areas of educational research and higher education.

Individuals who wish to pursue graduate study in the School of Applied Behavioral Science and Educational Leadership (SABSEL) must meet established Graduate College requirements and be accepted by the program faculty (educational administration or guidance, counseling and student personnel) which offers the program desired. An applicant who does not have a 2.70 overall (4 point scale) or a 3.00 on the last 90 quarter hours

(4 point scale) will be required to submit a test score from the Graduate Record Exam (verbal and quantitative) or the Miller Analogies Test. Applicants for the doctoral program must submit the results of both the Graduate Record Examination (verbal, quantitative and advanced education) and the Miller Analogies Test. An applicant for the Educational Specialists Program must possess a master's degree from an accredited institution of higher education.

Anyone considering graduate work in SABSEL should arrange to complete the application process well in advance of the quarter in which he or she expects to begin study. Applicants who have not taken the Graduate Record Examination within the past five years should note that this examination is administered only on certain specified dates throughout the year and that the interval between administration and receipt of scores is ordinarily six weeks. Further information regarding programs and admissions procedures may be obtained from the Office of the School of Applied Behavioral Sciences and Educational Leadership, McCracken Hall, Ohio University, Athens, Ohio 45701, or by calling 614/594-5406.

ART

The master of fine arts degree and the master of arts degree are offered in the School of Art.

The MFA degree is offered in five studio areas: ceramics, painting, photography, printmaking and sculpture. A graduate of an accredited four-year undergraduate college with a minimum grade point average of 2.5 is eligible for consideration. Each applicant must submit a portfolio of work. Photographs or color slides of work are acceptable. Applications for the photography area are accepted for fall quarter only. Application deadlines are: for fall quarter, March 15; for winter quarter, December 1; for spring quarter, February 15. No applications received after the above dates will be considered. Since the MFA is a terminal degree for the studio areas, all accepted

students will have a first-year review of their work to achieve candidacy and a final graduating exhibition. This is a 90-quarter-hour, two-year program. After candidacy is attained, residency of one year is required.

The MFA in art history requires 90 quarter hours of graduate work including ten hours for the written thesis.

The MA degree is available in two areas: photography and art education. The program in photography is oriented toward the student who is interested in the application of photography: mass-media, science, industry, etc. Sixty quarter hours and a final portfolio presentation are required. The program in art education is designed for students planning to teach in elementary or secondary schools. Each applicant must submit a portfolio or color slides of his or her work. A minimum of 45 quarter hours in art history, studio and education are required of students who have completed certification requirements as undergraduates. (However, for those students who have not received certification it is possible to do so. Eligibility for this program requires graduation with a studio major and a minimum 3.0 accumulative average.

BACTERIOLOGY

(See Zoology and Microbiology)

BOTANY

Doctor of philosophy and master of science degree programs with and without a research thesis are offered in the following areas of specialization: biochemistry, cell biology, ecology, morphology, mycology, paleobotany, physiology, phytology and systematics.

To begin graduate study the student must have at least 24 quarter hours, or the equivalent, of botany and/or related biological sciences. Applicants also must have completed calculus, inorganic chemistry and physics. Deficiencies in undergraduate preparation may be eliminated during the course of graduate study. Scores from both the aptitude and biology advanced tests of the Graduate Record Examination are required. Foreign applicants whose native language is not English must submit scores from either the English Test of the University of Michigan, English Language Institute, Ann Arbor, Michigan, or the Test of English as a Foreign Language (TOEFL) as an evaluation of English proficiency.

Organic chemistry is required for completion of graduate degrees. Coursework in biochemistry and proficiency in one foreign language (French, German, Russian or other, depending on research needs) are required for the PhD degree. All graduate students in botany must teach a minimum of two quarters during their tenure in the department.

BUSINESS ADMINISTRATION

The master of business administration is broad in nature and aimed at developing competence in overall management and administration. A highly integrated program that builds on a foundation of basic business knowledge, it emphasizes the mastery of advanced concepts and the application of these concepts for problem-solving and decision-making in business and other administrative organizations.

The MBA is a two-phase program. Phase I consists of foundation courses aimed at the development of basic background knowledge in business and administration. Any or all of the 11 courses in the first phase may be waived on the basis of undergraduate preparation or examination. These courses are Accounting Principles I and II, Micro and Macro Economics, Calculus, Statistics, Marketing, Production, Managerial Finance, Business Law and Management and Organization Behavior.

Phase II concentrates on the mastery of advanced concepts and provides opportunity for practice application of the concepts. All MBA candidates must complete 45 quarter hours in the second phase. Eight core courses (32 quarter hours) are required of all students. Thirteen hours can be used by the student to obtain additional breadth or to obtain depth in one particular area of study.

A thesis is not required for the MBA degree, but may be elected.

All applicants must submit scores for the Graduate Management Admission Test (GMAT), administered by Educational Testing Service, Princeton, New Jersey 08540, and three letters of recommendation. In addition, applicants from countries where English is not the native language must submit scores for the Test of English as a Foreign Language.

Qualified applicants may apply for admission for any quarter. Applicants who seek financial aid for the following academic year must submit application materials no later than March 15.

CHEMISTRY

Master of science and doctor of philosophy programs are offered in analytical, biological, inorganic, organic and physical chemistry. In addition, a program of study leading to a master of science in environmental studies is available. All degree programs include teaching and research experience.

To begin graduate work in chemistry, the student should have completed undergraduate work in analytical, inorganic, organic and physical chemistry. Calculus and physics are also required. Deficiencies in undergraduate preparation may be made up during the first year.

Examinations in analytical, biological, inorganic, organic and physical chemistry are administered during a special series of orientation sessions during the period prior to the opening of the academic year. The results are used to plan the student's coursework.

The program of study is flexible in order to take advantage of the previous training of each student and to meet the particular needs of each individual in his or her specialized area of study.

Qualified applicants must apply two weeks prior to the quarter in which admission is sought. Although there is no formal deadline for applications for financial aid, early application is strongly recommended.

COMPARATIVE ARTS

In the doctor of philosophy in comparative arts program emphasis is placed upon the interrelationship of major art forms. Work is taken in the history and theory of architecture, music, painting and sculpture, theater, film and dance.

Students entering this program should have the master's degree with major emphasis on the practical application of the fine arts. The undergraduate or master's degree program should include 24 quarter hours in the history of fine arts.

Requirements for admission and for this degree include evidence of creativity such as portfolios, slides, tapes, designs, etc. The final research paper is a dissertation which is comparative in nature.

In addition to the requirements stated above, all candidates for the PhD degree in comparative arts must register for six quarters of Seminar in

Comparative Arts (895). All candidates for the degree are also required to teach and/or engage in some performance activity as determined and supervised by the department.

The department will accept applications for admission for any quarter. Such applications should be in the hands of the departmental Graduate Committee not less than three months prior to the opening of the quarter for which admission is requested.

Requests for financial aid may accompany applications for admission, but applicants should understand that most graduate teaching associate-ship appointments are made for a nine-month academic year period beginning in the fall quarter.

CURRICULUM AND INSTRUCTION

The School of Curriculum and Instruction offers programs of graduate study designed to meet the academic and professional requirements of those persons involved in teaching, curriculum development and supervision.

Master's degree programs are offered in curriculum and instruction, which includes emphasis in elementary education, secondary education and special education and in supervision in reading, elementary, secondary and special education.

The doctoral program in curriculum and instruction is designed to prepare curriculum and supervision workers to serve as change agents in school and/or university settings. The program provides a core of experiences in educational foundations and curriculum and instructional theories and a specialization in one of the following areas: reading and language arts, social studies education, supervision or economic education.

Individuals who wish to pursue graduate study in education must meet established Graduate College entrance requirements and be accepted by the department which offers the program desired. Dependent upon the grade point average earned as an undergraduate, an applicant for master's degree study may be required to submit the results of the Graduate Record Examination (verbal and quantitative) or the Miller Analogies Test. Applicants for doctoral study must submit Graduate Record Examination scores (verbal, quantitative and advanced education tests) and the result of the Miller Analogies Test.

Anyone considering graduate work in education should arrange to complete the application process a month in advance of the term in which he or she plans to begin study since the Graduate Record Examination may be taken only on certain dates throughout the year. Applications for financial aid should be submitted by March 15 to receive consideration for the student entering the following academic year. Complete and detailed admissions information may be obtained from the Office of Graduate Studies in Education, McCracken Hall, Ohio University, Athens, Ohio 45701.

Special Note for Students in Education: Any student who has earned a master's degree in education at Ohio University and who plans to take any additional work in education must reapply through the Graduate College for admission.

ECONOMIC EDUCATION

The MA in economic education at Ohio University is administered by the faculty of the Department of Economic Education, College of Business Administration. Additionally, Ohio University offers a PhD that is administered by the faculty of the School of Curriculum and Instruction, College of Education, in cooperation with the Department of Economic Education. For information about the PhD program, see listings in Education.

The MA is designed specifically for in-service and preservice teachers who have baccalaureate degrees and who meet the normal admission stan-

dards for the Graduate College and minimum departmental standards. A program of 48 quarter hours in economic education, economics and educational theory and research is required. Degree candidates are expected to take a minimum of 12 quarter credits in economic education, 16 quarter credits in economics, and eight quarter credits in education. The student may elect either a thesis or a nonthesis program.

The total program must be planned with and approved by the graduate advisor. Students may enroll in any quarter.

ECONOMICS

A student beginning graduate work in the field of economics should ordinarily have undergraduate training which includes courses in the social sciences or business administration. However, a wide variety of areas of concentration relate to or provide appropriate background knowledge for advanced study in economics.

Undergraduate courses in principles of economics, statistics, intermediate micro and macro theory, and some quantitative orientation will ordinarily be deemed prerequisites for graduate work in this area, although a student may be permitted to make up these deficiencies while pursuing a graduate program. In every case the student's undergraduate program must be approved by the departmental admissions committee prior to the beginning of graduate work. Applicants are urged to take the Graduate Record Examination and submit scores with their applications.

It is preferable that students enter the program during the fall quarter. However, it is possible to begin studies in the winter or spring quarters. For financial assistance, it is advisable to apply before the end of February.

All students seeking the master of arts degree are required to take methodology of economics, history of economic thought, advanced microeconomic theory and advanced macroeconomic theory and to specialize in two areas of economics (two courses for each area). Also, unless the undergraduate equivalents are completed, mathematical economics foundations and statistical foundations are required. All other courses are elective.

Students may choose either 41 quarter hours of credit plus thesis, 45 quarter hours plus research paper (master's seminar), or 48 quarter hours plus comprehensive examinations in the two areas of concentration.

EDUCATION

(See Applied Behavioral Sciences and Educational Leadership)

(See Curriculum and Instruction)

(See Health, Physical Education and Recreation)

(See Home Economics)

ENGINEERING, Chemical

Programs leading to the master of science and the doctor of philosophy degrees are offered. Major interests in the department are materials engineering (polymers and metals), transport phenomena, thermodynamics, kinetics, process dynamics and design and the usual related topics. Interests in bioengineering and computer process control are developing.

The basic requirement for admission to graduate study in the department is a BS degree in chemical engineering or in another engineering or science field. A student may be admitted to the program on a conditional basis where deficiencies exist in undergraduate preparation, with the requirement that such deficiencies be removed through the taking of special examinations or coursework assigned for this program.

In the MS program, both thesis and nonthesis options are available. The selection of the option to be followed by a student will be made by the

department graduate committee after consultation with the student and the major advisor.

The usual minimum requirement for the MS are 33 or more quarter hours of coursework plus a thesis. The course may be selected from engineering, the physical sciences, mathematics, or other approved disciplines. The thesis program is designed by the student and the advisor as indicated by the student's interest and goal.

ENGINEERING, Civil

Master of science programs are offered with major fields in civil mechanics, fluid mechanics, structural mechanics, structure, and transportation or in a combination of the two.

Applicants are invited from engineering or science graduates. Collateral work to remedy deficiencies of those without civil engineering degrees may be carried out in parallel with the MS program. Collateral requirements will depend upon the applicant's preparation in the major field of study. With the approval of his or her advisor, the student may elect either the thesis or the nonthesis plan. At least 30 credits of graduate coursework plus a thesis or 40 credit of graduate coursework including three to five credit of a special investigation, respectively.

The Department of Civil Engineering recommends that the student begin in the fall quarter. There are no deadlines for applications for financial aid.

ENGINEERING, Electrical

Programs leading to the master of science and doctor of philosophy degrees are offered. Areas of interest include computers and control systems, communications, information and electronic circuits, energy conversion and power systems, electromagnetic phenomena, avionics, applied instrumentation and remote sensing, network theory.

To enter the master's program the applicant must have a BS degree in electrical engineering or an equivalent degree in physical science, mathematics or engineering. Deficiency must be made up by self study or by auditing, or taking without graduate credit appropriate undergraduate courses.

Applicants with degrees other than BS/EE, or with degrees from nonaccredited LCED institutions may improve chances of admissions by submitting GRE scores, including the advanced test in electrical engineering.

To enter the PhD program the applicant must have an MS degree in electrical engineering or equivalent in the physical sciences, mathematics or engineering.

The master's degree requires 40 quarter hours, including up to nine hours of thesis or 30 quarter hours, including three hours of project. The PhD requires 40 quarter hours of formal coursework beyond the MS and 45 hours of research and dissertation.

The applicant is encouraged to enter the program in the fall quarter. However, the department will accept student in other quarters. The deadline for receipt of applications for financial aid is March 31.

ENGINEERING, Industrial and Systems

The Department of Industrial and Systems Engineering offers the master of science degree. Unlike the more traditional field of engineering, graduate work in ISE is not built upon a highly specialized body of knowledge obtained at the baccalaureate level. Rather, it is more of a broad, foundational degree, one for a way of thinking. Each student builds upon his or her own particular background and experience with the goal of developing the tools and skills to analyze and design complex systems of human, technical and economic resources

within a wide variety of living and working environments.

Specialized study concentrations are available in a number of areas of faculty interest, including operations research and mathematical programming, systems simulation, decision theory, inventory and manufacturing control, engineering management, optimization theory, and stochastic systems. Other concentrations include management information systems engineering, computer systems analysis, industrial systems analysis and design, government and health care systems analysis, man-machine systems analysis and design, human factors engineering and traffic safety, and engineering statistics and experimental design.

The usual minimum requirements are 30 or more quarter hours of coursework and a thesis; however, the student may also follow a nonthesis option. Up to 18 quarter hours of coursework can be earned outside of industrial and systems engineering. Many students use this opportunity to include a concentration in business administration, computer science or engineering fields. Research is required of all candidates for the MS degree.

Although a baccalaureate degree in engineering is an excellent, and perhaps the best preparation for advanced work in industrial and systems engineering, it is by no means the only suitable background. Because of the diversity of the field, students from the physical and social sciences including mathematics and computer science are among the most successful graduates of the program. The department welcomes applicants from all fields. Each candidate is evaluated on previous academic record, work experience and career goals. Students entering without an adequate background may be required to take up to 18 hours of undergraduate work including statistics and FORTRAN programming, a survey course in principles of industrial engineering.

ENGINEERING, Mechanical

The master of science program in mechanical engineering is designed to allow the student considerable flexibility in establishing a curriculum suited to his or her own particular requirements. A student may concentrate either on a particular specialty or study a variety of subjects which provide broader coverage but lesser depth. Programs also can be constructed which incorporate a substantial minor outside the field of engineering such as business, management, biological sciences, pre-law, geology, etc. Areas of concentration within mechanical engineering include kinematics, vibrations, machine design, engineering mechanics, automatic control, metal processing, energy conversion, thermal machinery, heat transfer and propulsion. Courses which contribute to contemporary engineering practice are also drawn from related areas.

The minimum requirements are 33 quarter credits of coursework and a thesis covering a research or an advanced design project. Students with prior professional experience in which research or design proficiency has been clearly established may substitute additional coursework in lieu of the thesis. In such cases, the minimum requirement is 45 quarter credits of coursework, including a report on a special investigation involving three to six quarter credits of effort.

Applicants with baccalaureate degrees in engineering or science are considered for admission. All applicants must demonstrate proficiency in basic undergraduate mechanical engineering subjects. Applicants not holding degrees from accredited engineering colleges may be required to make up deficiencies prescribed by the department and to submit a satisfactory score on the Graduate Record Examination.

The applicant is encouraged to enter the program in the fall quarter. However, the department will accept students in other quarters. Applications for financial aid for the following academic year should be received no later than June 1.

ENGLISH LANGUAGE AND LITERATURE

The Department of English offers master of arts and doctor of philosophy programs in all areas of English and American literature and in English language; an MA program in creative writing and a PhD program in English with emphasis in comparative literature. The MA program is essentially a nonthesis program, but under certain circumstances the candidate may, with the approval of his or her advisor, write a thesis.

The applicant to a master of arts program should present at least 27 quarter hours (18 semester hours) of superior work on the undergraduate level in English language and literature and should have completed at least two years of college work in a foreign language. Applicants without the foreign language but with otherwise outstanding qualifications may also apply, as may students who have had extensive training in academic fields significantly related to English.

All applicants should take the Graduate Record Examination, including the advanced test in literature, and submit their scores. If a student is admitted to the MA program without having taken the GRE, he or she must take it the first time it is offered at Ohio University after enrollment. All applicants should have letters of recommendation from at least three previous teachers.

Some teaching or research under supervision is required of students in graduate programs in English language and literature.

The fundamental requirement for the MA in English is 60 quarter hours of graduate credit, with coursework spread out over four different fields of literature and a minor area, as specified in the pamphlet *Graduate Study in English* (available on request from the Department of English). Specifically required courses include The Teaching of English (first quarter) and Bibliography and Methods (second quarter).

Normally, the candidate will take a two-quarter proseminar sequence offered in the second and third quarters, which will include the writing of a scholarly or critical essay roughly equivalent in scope to a master's thesis. The student may choose to write a thesis instead of taking the proseminars, but is likely to find the process a good deal more arduous and time-consuming, and the thesis program is generally not recommended. MA candidates in the creative writing program ordinarily do not take the proseminars but produce instead original writing under the direction of members of the creative writing staff.

The final requirement for the MA in English is a written comprehensive examination, based on a reading list distributed early each academic year.

Qualified applicants may apply for admission for any quarter. Applicants who seek financial aid for the following academic year must submit application materials no later than March 1.

ENVIRONMENTAL STUDIES

Graduate work leading to a master of science degree in environmental studies is available through an interdisciplinary program. The two areas of concentration available in this program are biological sciences, involving botany, microbiology and zoology, and physical and earth sciences, involving chemical engineering, chemistry, civil engineering, geography, geology, industrial and systems engineering, and mechanical engineering.

Each student seeking an MS in environmental studies will be required to take at least ten credits of core courses and at least 16 additional credits in his or her area of concentration, i.e. biological sciences or physical and earth sciences. Both thesis and nonthesis options have a minimum of 48 credit hours. In the thesis option, at least nine credits will be in thesis research and 12 credits in other graduate courses specified by the student's advisory committee. In the nonthesis option, at least 21 credits will be in other graduate courses specified by the student's advisory committee, including three or

more credits in a research oriented course, such as Special Investigations.

The core courses required by the student seeking a degree in this area are either Animal Ecology (Zool 575) or Population Biology (Zool 577), Geographic Perspectives on Resource Management and Conservation (Geog 525), and Environmental Law (BusL 570).

This program is administered by the Graduate College with the advice of a steering committee composed of faculty members from appropriate departments.

FILM

Graduate work in the Department of Film leads to an MFA degree in film. The program is designed for those who have graduated in film or, uniquely, for those who come to film with extensive experience in another medium or discipline. Enrollment in the MFA program requires a major commitment to film, not necessarily prior achievement in film making.

The department does not attempt to produce specialists headed for one particular kind of production activity. It is distinguished by its flexibility and by the wide variety of directions pursued by its students. Emphasis is on the development of an individual who is capable of most production skills and able to function in the medium in the same personal, direct manner in which a painter or writer functions. Those who wish to concentrate in film scholarship follow a similar broad-based approach, gaining experience in production before going on to individualized study in film theory, criticism, or history.

Film Department offices, screening rooms, and editing facilities are located on the third floor of Lindley Hall on South Court Street. There are six fully equipped sound film editing rooms, a Steenbeck editing machine, six 16mm silent film editing stations, and eight 8mm editing stations. Several projectors, including a 16mm interlock projector, are available for student use. Equipment check-out inventory includes an Eclair NPR camera, Auricon 600 and Auricon 1200 cameras, a half-inch Sony VTR unit, seven Bell & Howell and five Bolex cameras (some with reflex viewing and motor). A large complement of lenses and lighting equipment is also in stock. An Acme-based animation stand with Mauer camera is available to students who pass a course in its usage. Motion picture sound facilities include three Nagra (III and IV) tape recorders, a variety of microphones, and equipment for transfer and multi-channel mixing of 16mm magnetic stock.

The Ohio University Film Production Laboratory, professionally staffed and operated by the department, offers complete 16mm and 8mm black and white processing, an optical printer, and a 16mm color and black and white contact printer. Students can closely participate in all production stages of their film projects.

There is ample opportunity to view and study motion pictures in Athens. Two local theaters offer weekly classic matinees and midnight specials to supplement their feature schedules. IGL, a student-run film society allied with the department, has weekly screenings which offer a variety of motion pictures each quarter. The Fine Arts Library subscribes to 27 film periodicals and has 800 volumes in its motion picture book collection. Special off-campus study arrangements are available for work with collections in major archives.

The Department of Film has its own staff, curriculum, facilities, and budget. There are three full-time faculty members and one research associate. Due to the intimate nature of the program, graduate enrollment is restricted to fewer than 20 students.

Admission

Because certain courses offered only once yearly must be taken in sequence, admission to

MFA studies in the Department of Film is limited to fall enrollment only (exceptions may be made upon petition).

A minimum gradepoint average of 2.5 for all undergraduate work and a bachelor's degree from an accredited institution are required for admission. The undergraduate degree may be in any field. Supporting documents normally required are a transcript of all undergraduate work, three letters of recommendation, and a formal application with fee. In addition to these materials required by the Graduate College, the applicant should send the following items directly to the department by March 15 of the year of enrollment.

1. A written sample of the student's work. This need not be about film. The paper (or papers—more than one may be submitted if an applicant wishes to do so) will be evaluated through the potential shown for work in the department.
2. A representative film, videotape, portfolio of work in another medium, or other substantial representation of applicant's creative ability.
3. A short personal essay (500 words) on the applicant's educational goals, including how the student would relate previous education and experience to his or her goals in the department.

Please note that only these last three items should be sent to the Department of Film, Lindley Hall, Ohio University, Athens, Ohio 45701. All other materials—application forms, letters of recommendation, transcripts—should be sent to The Graduate College, Wilson Hall, Ohio University, Athens, Ohio 45701. An application is not complete until all of the above credentials have been submitted. It is the applicant's responsibility to ensure that all items are received by the specified deadline. Materials arriving after March 15 will be returned.

Because the department receives many highly qualified applications for its very limited number of openings, applicants are strongly urged to come to Athens for an interview. Such visitation enables potential students to assess personnel and facilities of the department and facilitates a more comprehensive evaluation by the Graduate Committee. (Such personal interview eliminates the statement of purpose essay requirement listed above.)

Although the department furnishes equipment of every kind to students in motion picture courses, film makers must rely primarily on their own resources for financing of materials and outside services. Persons interested in graduate work are cautioned that this kind of production experience requires extra financial resources to meet extensive film making expenses.

The department presently has limited graduate assistantships available which pay \$2640 per annum plus tuition. A few partial tuition scholarships are offered on a quarter-to-quarter basis. Assistantships and scholarships are normally not awarded to entering graduate students but only to persons who have been approved for MFA candidacy. On rare occasions, highly qualified students may receive assistantships during their first quarter, particularly if they have professional experience in motion picture production, laboratory work, or as motion picture equipment repair personnel.

The Graduate College Bulletin, Part I, General Information contains details of other University scholarship and financial aid opportunities. In the past, film students have relied primarily on Federal Work-Study and Direct Student Loan programs to meet educational and living expenses. Specific inquiries about financial aid programs should be addressed directly to the Office of Student Financial Aids, Chubb Hall, Ohio University, Athens, Ohio 45701. **IMPORTANT:** The deadline for receipt of Student Financial Aid applications is April 15.

General Requirements

Major focus in the Department of Film is on individual work supplemented by group and formal class activity. A minimum of 90 quarter hours of graduate work (including 15 in art history and approximately 56 in film) are required. The full program usually takes two and a half years to complete.

Modification of these requirements may be made to accommodate the special needs or experience of a student. The awarding of an MFA degree is never automatic upon completion of 90 hours or upon any total period of time in residence. The following criteria are also used to evaluate a candidate's overall creative and scholarly achievement independent of his or her academic record.

1. Upon completion of the first full two quarters of a graduate student's residence, his or her work will be evaluated prior to advancement to candidacy for the MFA degree. At this time the student is required to present at least one completed film and at least one completed scholarly paper about motion pictures.
2. After the first year and before approval for graduation, a candidate is required to take a comprehensive oral examination on basic academic and technical knowledge of motion picture. The examination committee will consist of the department faculty. This oral examination will usually occur in the quarter immediately before graduation (with the exception of summer quarter).
3. Prior to graduation, a candidate will present a thesis showing of his or her work in a public situation in Athens. Students who pursue emphasis in film scholarship may substitute a written thesis. In each case, the candidate will defend his or her thesis work before an examining committee. The committee in this instance will comprise the department faculty augmented by one or two more Ohio University faculty members.

Students are allowed two efforts to pass each of these successive examinations. Failure twice at any stage of this evaluation process will result in denial of further enrollment as an MFA degree candidate.

GEOGRAPHY

The Department of Geography offers the master of arts degree with emphases in area studies, cultural geography and geographic techniques. The bachelor's degree and departmental approval are necessary for admission to the program. After acceptance, the student participates in diagnostic interviews conducted by the geography faculty.

Specific degree requirements include nine courses other than thesis, seven of which must be in geography. Geography courses which are required include Geog 670 (Geographic Thought), Geog 675 (Research Methods), Geog 677 (Quantitative Methods), and at least two seminars. The student must complete an acceptable thesis on a topic agreed upon in consultation with the faculty advisor and the thesis committee.

The deadline for applications for the academic year is August 1, while requests for financial aid must be filed with the department prior to February 15. Acceptance to our graduate program is possible each quarter of the academic year.

GEOLOGY

The master of science degree is offered in the following fields of geology: geomorphology, glacial geology, hydrogeology, paleontology, paleoecology, stratigraphy, economic geology, mineralogy, petrology, sedimentology, and structural geology.

Graduate students with undergraduate majors in physics, mathematics, biology, chemistry, civil

engineering, or geology may also study for the MS degree in special programs in hydrogeology and geophysics and in a geology option in the MS program in environmental studies.

A graduate student desiring a master's degree in geology must have completed coursework in physical geology, historical geology, crystallography and determinative mineralogy, petrology, geomorphology, paleontology, sedimentology, stratigraphy, and structural geology. At least nine quarter hours each of chemistry and physics, and mathematics through differential and integral calculus are required. Students unable to meet the above requirements will be asked to make up deficiencies without graduate credit.

A recognized field camp is also required. Field camp may be taken for graduate credit during the first graduate summer, but will not be counted toward the 45 graduate hours required for the MS degree.

All MS degree candidates are required to complete a research thesis and an oral defense. The thesis topic must be approved by the student's faculty advisor and the departmental graduate committee. Up to nine thesis hours may be counted toward the 45-hour degree requirement.

The program of graduate study is developed for each student in close consultation with the graduate committee and faculty advisor. Emphasis is placed on both the individual needs of the student and the development of broad, general training. Courses from several subdisciplines, core curriculum, are required of all graduate students. After the first year of graduate study, and before approval for graduation, a candidate is required to take a comprehensive oral examination on basic academic and technical knowledge of geology.

Applications for admission to graduate study in geology are accepted during all quarters. Applications for financial aid must be received by the department prior to March 15 of the academic year preceding the year of intended entry into the graduate program.

GOVERNMENT

The master of arts degree is offered in all major areas of political science. These include American government, public administration, theory and methodology, comparative government and area studies, as well as international relations and international law and organization. A comprehensive examination in the field of concentration is required of all candidates. The department offers both a thesis and a nonthesis option for its MA degree. Completion of 45 quarter hours of graduate credit is required, of which ten are credited for the writing of a thesis.

To begin a graduate major in government a student should have permission or the equivalent of 27 hours of undergraduate work in government. Applications will also be considered from students with academic backgrounds in areas closely related to political science. Submission of Graduate Record Examination scores is required of applicants for financial aid. A number of departmental assistantships are available to qualified applicants. Holders of these assistantships are normally expected to assist in the instruction of the introductory courses.

Qualified applicants may apply for admission for any quarter. Applicants who seek financial aid for the following academic year must submit application materials by March 1.

HEALTH, PHYSICAL EDUCATION AND RECREATION

Programs leading to the master of science or the master of education degree are offered in physical education. Also offered is a master's program in physical education with a major emphasis on sports administration.

The student may elect to follow one of three options in planning graduate study. Plan A requires the completion of 39 quarter hours of coursework in addition to a thesis for which six quarter hours of credit are given. Plan B requires the student to complete 46 quarter hours of coursework plus a research paper for which four quarter hours of credit are given. Plan C requires the completion of 50 quarter hours of coursework. Plan A leads to the master of science degree, and plans B and C lead to the master of education degree.

To begin a graduate major in physical education, a student must have 36 quarter hours of undergraduate work in physical education, unless he or she is a candidate for the degree in physical education with emphasis in sports administration. Depending on the academic record the applicant may be requested to submit scores on the Miller Analogies Test prior to admission. *All Sports Administration applicants will be required to submit test scores from the Miller Analogies Test or the Graduate Record Examination.*

Applicants for summer and fall admission to the Sports Administration Program must complete their applications by April 1; for January admission, October 15.

HEARING AND SPEECH SCIENCES

The graduate program leading to the MA and PhD degrees provides course structure and required practicum in speech pathology, audiology, speech science and combination of these areas for students who wish to concentrate in clinical therapy and diagnostics, supervision and administration and research activity or teaching opportunities.

Prospective graduate students should present undergraduate course hours in speech pathology, audiology, speech science and areas related to the course of study to be pursued. The suitability of courses in related areas will be determined by the School of Hearing and Speech Sciences. All entering students must complete successfully five core examinations in phonetics, speech science, articulation disorders, language development and basic audiology after they arrive on campus. The purpose of these exams is to help develop each student's curriculum. At the time of acceptance the school will notify the applicant whether a time period in excess of the usual degree program will be required to earn the degree. Academic ability, experience records, personal recommendations and either MAT or GRE scores are considered.

The school program meets certification requirements of the American Speech and Hearing Association. The programs in speech pathology and audiology are accredited by the Education and Training Board of the American Boards of Examiners in Speech Pathology and Audiology. Financial support is available in the form of graduate assistantships and scholarships provided by the University. Under normal conditions the school will not provide support for an MA candidate beyond four academic quarters.

Every student is required to spend time in observation and participation in diagnostic and therapy activities, as well as preparation in academic areas. Practicum requirements in laboratory and teaching activity are considered individually. Training and service are combined in campus clinic, local schools, local retardation programs, five county speech clinics, itinerant pediatricological clinics and other activities. The on-campus diagnostic clinic offers a wide range of services for training. Off-campus internships are available, located in hospitals and general clinics. Extensive laboratory facilities provide experience in investigation of acoustical, physiological and behavioral aspects of communication. An MA nonthesis option is available, with faculty approval.

HISTORY

The graduate program in history is intended principally to prepare students for secondary school

teaching and teaching at the college level. Each applicant is expected to have completed 24 semester hours or 36 quarter hours of undergraduate history courses, including basic survey courses in European and American history or their equivalent, and at least three semester-length or four quarter-length courses at the junior-senior level. Exceptions to this requirement may be considered for applicants with outstanding undergraduate records in other fields. Deadline for application to either MA or PhD program for fall quarter admission is July 1; for financial assistance, deadline is May 1.

Master's Program

An MA program is offered with work in the history of the United States, Europe, Latin America, Africa, the Middle East, and East and Southeast Asia. Thesis and nonthesis programs are available. The general requirements for the MA in the thesis program are eight graduate courses plus a thesis-essay combination. The general requirements for the nonthesis are 12 graduate courses including one seminar. No foreign language is required for admission to the program, but students in the thesis program must demonstrate a reading proficiency in one foreign language prior to submission of the thesis. The nonthesis MA program MAT equivalent is usually regarded as terminal.

Doctoral Program

The candidate must offer a minimum of six quarters of residence credit as a full-time equivalent student beyond the master's degree. Each candidate is required to show reading proficiency in at least two foreign languages where language training is essential to major research. He or she must complete a minor of three graduate courses in one cognate field or of four courses in two cognate fields. Within the area of concentration the student will select two special fields, in one of which the dissertation will be written. He or she will also choose two special fields outside the area of concentration. Areas of concentration are as follows:

Area One: American History: Colonial, 19th Century, 20th Century, U.S. Foreign Relations.

Area Two: European: Western Europe, European Diplomatic, Tudor-Stuart England, England since 1714, Balkans, Russia, Renaissance and Reformation, Medieval, Ancient.

Area Three: Third World: Africa, Southeast Asia, East Asia, Middle East and Mediterranean, Latin America.

HOME ECONOMICS

The School of Home Economics offers graduate programs leading to the master of science degree in four fields: home economics education, foods and nutrition, textiles and clothing and child development and family life. In addition, an interdisciplinary program leading to a master of education degree is offered for home economics or family life teachers in junior-senior high schools or community colleges.

A prospective graduate student should have a minimum of 20 quarter hours of undergraduate preparation in the field of home economics in which he or she wishes to specialize or in approved related fields or both. For a student majoring in home economics education, a minimum of 24 quarter hours of undergraduate credit distributed among at least three areas of home economics is required. Deficiencies may be made up during the first quarter of study.

A student holding a bachelor's degree from an accredited college or university, who has attained an undergraduate scholastic point-hour ratio of 2.7 (A=4.0) on hours attempted, and a 3.0 in the last 90 hours of coursework will be considered for admission with regular status in the Graduate

College. Further supporting evidence of the student's ability in the form of letters of recommendation and letters of intent may be required.

Applicants not meeting the above requirements may be considered for admission if they achieve designated scores on the Graduate Record Examination or the Miller Analogies Test.

It is recommended that both applications for admission and for financial aid for the following academic year be received by April 1.

INDUSTRIAL TECHNOLOGY

Programs are available for both thesis and nonthesis plans, and the MS and MEd degrees are granted. Related courses from other areas of the University are normally specified within each program, as approved by the major advisor and the departmental graduate committee.

A minimum background of 36 quarter hours earned in technically oriented areas is expected of students admitted to regular status. Persons not meeting this minimum prior to acceptance may have equivalent undergraduate course requirements added to their normal graduate programs.

Qualified students may apply for admission for any quarter.

INTERNATIONAL AFFAIRS

The Center for International Studies offers an interdisciplinary master of arts degree. The student may concentrate his or her work on a major world region such as Africa, Southeast Asia or Latin America, cross-cultural theme such as comparative development, or may, with the help of an advisor, develop a program of courses which would provide knowledge of international problems and institutions. The degree is intended to give the individual freedom to develop a program suited to his or her academic and professional requirements from more than 100 courses and seminars offered each year.

Students are required to complete a minimum of 45 quarter hours. Courses dealing with a major world area such as Asia, Africa or Latin America, or courses with international content, should be selected from not fewer than three of the following: art history, comparative arts, business administration, communication, economics, education, English literature, geography, government, history, journalism, linguistics, philosophy and sociology/anthropology.

Students are required to demonstrate an acceptable level of achievement in an Asian, African, Latin American or (in some cases) European language pertaining to the area of concentration. An acceptable level of achievement may be demonstrated in either of the following ways: (1) complete satisfactorily a minimum of one academic year in Chinese (Mandarin), Hausa, Indonesian/Malay or Swahili, taught at Ohio University. These credit hours cannot be counted as one of the discipline requirements, but may be used to complete the 45 hours required for the degree; (2) examination by the center or evidence of acceptable level of achievement in examinations administered by other recognized agencies.

For Spanish and Portuguese the student must demonstrate competence at the intermediate level (the equivalent of 24 undergraduate quarter hours). The acceptable level of achievement may be demonstrated through examination by the center or evidence of acceptable level of achievement in examinations administered by other recognized agencies. Credit hours taken in Spanish and Portuguese by graduate students cannot be counted as a discipline requirement, nor may they be used to complete the 45 hours required for the degree.

A thesis is not required but may be written if it seems desirable from the point of view of the student's academic and professional goals. The number of quarter hours granted for the thesis will be determined by a committee made up of representatives both of the area studies program

concerned and faculty members with special knowledge of the thesis subject.

The criteria for admission are a baccalaureate degree from an accredited college or university; the quality of the student's undergraduate record, usually including a minimum 3.0 average in the undergraduate major; work experience; letters of recommendation which reveal motivation, intellectual maturity and prospect of success in graduate work.

Applications for admission will be considered at any time during the year. Completed applications for financial assistance should be received no later than March 1 of each academic year.

INTERPERSONAL COMMUNICATION

Graduate study in the School of Interpersonal Communication follows the principle that the program of study for each student be tailored to the individual's needs and capabilities, based on his or her background and professional goals. After completing the particular degree requirements, a graduate student is expected to have the appropriately broadened perspectives and attitudes of a generalist, with the commensurate knowledge and skills of a specialist.

Both the MA and PhD degrees are offered; the appropriate degree may be pursued through study and research typically in one or more of the primary areas: communication theory and process, organizational communication, rhetoric and public address and speech education. Additional primary areas representing emerging emphases (information systems, intercultural communication, etc.) are possible, depending upon the recommendation of the student's advisory committee.

To provide a common background perspective, InCo 501: Introduction to Graduate Study, or its equivalent is required of all graduate students. Academic ability, experience and personal recommendations are considered in the admission of students to the graduate program. Those accepted may be required to make up any deficiencies through further work at the undergraduate level or by additional graduate courses, according to the needs of the individual student.

Methodology used in thesis or dissertation research may be experimental, descriptive or historical, and it may be quantitative or nonquantitative. A multidisciplinary approach to communication is emphasized. A nonthesis program for the master's degree may be followed, with faculty approval.

Graduate teaching associates may serve as instructors in basic courses, assist in the teaching of advanced courses or help with special research projects or the extracurricular program in forensics.

Various college and school agencies are available to assist the graduate student with research projects. A well-equipped Speech Communication Resource Center, a listening laboratory and a closed-circuit TV studio are available to graduate students for research and teaching.

The School of Interpersonal Communication will process applications for admission on a quarterly basis. Typically, the school begins awarding financial aid on April 1 of each year for the next academic year; therefore, early application for financial aid is encouraged.

JOURNALISM

(See also Radio-Television)

The School of Journalism offers the master of science degree. Also, in cooperation with the School of Radio-Television, it offers the doctor of philosophy in mass communication.

The master's program is designed to prepare students for professional journalism or for further academic work. The program blends professionally oriented courses with courses in the principles and theory of mass communication.

Admission is based on the student's academic and professional background. Applicants need not have an undergraduate major in journalism.

Master's degree students may choose between two plans. Plan A requires 45 quarter hours of graduate-level work, including a six-hour thesis. Plan B requires 45 graduate-level hours, including a one-quarter six-credit internship. Plan B is open only to students who have not had an undergraduate journalism internship or, in any other form, the equivalent of at least 10 weeks of full-time journalism employment.

The graduate-level core requirement for both plans includes five courses totaling 21 quarter hours. In addition, students without undergraduate training and/or substantial professional experience in journalism must complete 13 undergraduate hours in skill courses. Any core or skill-course requirement will be waived if the student has had an appropriate course in the subject.

A doctoral applicant must have a master's degree, preferably in some phase of communication. At least 90 quarter hours of credit beyond the master's degree are required, including up to 30 quarter hours for the dissertation. The student must complete at least 27 quarter hours in journalism and radio-television courses at Ohio University and must have a total of at least 54 quarter hours of graduate work in mass communication, including the master's degree work. The student also must complete a minor of at least 18 hours in a related field such as English, history, government or sociology.

Applicants for both the master's program and the journalism doctoral track must complete the basic aptitude test, Graduate Record Examination, as part of their applications.

Master's or doctoral candidates in other fields may minor in journalism with the approval of the graduate coordinator.

Although qualified applicants may apply for admission in any quarter, completed applications for admission must be received at least four weeks prior to the date the student plans to enroll. Applications for financial aid for the following academic year must be received by April 1.

LINGUISTICS

The Department of Linguistics offers three nonthesis programs leading to a master of arts in linguistics. The largest is instruction in teaching English as a Foreign Language (TOEFL), for those persons who wish to teach nonnative speakers of English in international or domestic settings. The English Linguistics Program is designed for those who wish to teach either at the high school or college levels. The General Linguistics Program is primarily for students who intend to do doctoral level work in linguistics, but it may serve as a base for further study in English language, education, psychology, and other fields where an understanding of the structure and nature of language is necessary. The master of arts degree can be completed in seven quarters. The candidates demonstrate their achievement by a major paper in one or more seminar-type courses and by a comprehensive examination.

Admission for graduate study in linguistics requires no specific undergraduate preparation, but backgrounds in English, foreign language, speech, psychology, mathematics, or philosophy are particularly relevant. Transcripts of all previous study must be submitted and must indicate strong promise of the applicant's success in graduate study. The applicant's record must also include evidence of two years of college-level study of foreign language. Admission is possible for applicants who cannot meet this requirement, but it must then be satisfied by concurrent nondegree study. Nonnative speakers of English may use their previous study of English to satisfy this requirement. Teacher training and experience are highly desirable preparation for native students intending to follow the TOEFL curriculum. For nonnative applicants to the TOEFL program, both teacher training and an undergraduate major in English are required.

While there is no specific deadline for submission of applications, materials applicants are encouraged to begin their preparation in the fall quarter. Applications for financial aid for the following academic year must be submitted approximately one month prior to April 1.

MASS COMMUNICATION

(See Radio-Television and Journalism)

MATHEMATICS

The Department of Mathematics offers the master of science degree and the doctor of philosophy degree. There are no fixed programs; at each student's discretion, a program is devised to meet the student's needs and interests. He or she may elect to concentrate in computer science with the intent of ultimately doing research in that area or choose a broad program to prepare for a career such as college teaching.

To be admitted to graduate study, the applicant should have an undergraduate grade average of at least B. The undergraduate program in mathematics should have included advanced calculus and linear algebra and courses in abstract algebra and linear algebra. If the student is admitted with deficiencies, he or she will be expected to make up the deficiencies during the first year.

The master of science degree can be taken with or without a thesis; no examination is required. Under the nonthesis option, the minimum amount of coursework is 10 quarter hours, half of which must be earned in course sequences numbered 600 or higher. If most or all of the student's work is on the 600 level, the graduate committee may require more than 10 hours, but not over 60. The coursework should include at least two mathematics sequences.

There are no specific courses required for the PhD degree, but each student must pass a comprehensive examination and write an acceptable dissertation.

The dissertation is expected to be a scholarly work demonstrating the student's ability to understand, organize, improve, and present mathematical ideas of outstanding importance, depth, or interest. It should be worthy of publication.

The Department of Mathematics encourages its student to develop the ability to read mathematics in those languages which predominate the literature of the discipline. Student in post-master courses will be expected to understand mathematics written in one or more of the following languages: French, German, and Russian.

Qualified applicants may apply for admission at any quarter. Applications for financial aid for the following academic year must be submitted approximately one month prior to April 1. Such late applications will be considered on a case-by-case basis.

MODERN LANGUAGES

Master of arts degrees are offered in French, German, and Spanish. Graduate courses are day or evening sessions in French, German, and Spanish. The department offers a number of courses. The student should have a minimum grade of C in the undergraduate language. For each of the languages, there are two concentrations: French and German. Qualified applicants should have completed at least one semester of undergraduate study in the language. Applicants for the master of arts degree in French or German should have completed at least one semester of undergraduate study in the language. Applicants for the master of arts degree in Spanish should have completed at least one semester of undergraduate study in the language. Students are encouraged to take additional courses in the language of their choice.

A student who has completed the requirements for the master of arts degree in French, German, or Spanish may apply for admission to the doctor of philosophy program. The student should have completed at least one semester of undergraduate study in the language.

To begin a graduate major in a modern foreign language, the student should have completed an undergraduate major of 36 quarter hours beyond course 241 or the equivalent in that language. To begin work in a secondary area of modern languages, the student should have completed a minimum of six hours of undergraduate work at the 300 level or the equivalent in the language. Deficiencies in undergraduate preparation can be made up during the summer quarter preceding graduate work or during the first quarter of study.

Even graduate courses in the major field are required for the MA degree.

MUSIC

Programs leading to the master of music degree, requiring a minimum of 10 quarter hours of graduate work, are offered in applied music, performance, theory and composition, and music history and literature. Both the master of music and the master of education degrees are offered in music education. A thesis or its equivalent is required in all programs except in music education where a 40-quarter hour minimum nonthesis option is available. Each major in applied music performs a public recital, while majors in composition present compositions in a large form in lieu of a thesis. An oral examination is required of each candidate.

To begin a graduate program in music, a student is required to have completed with at least a 2.0 cumulative average, an undergraduate curriculum in music from an accredited institution offering an undergraduate degree equivalent to the requirements of the National Association of Schools of Music. Music education students not holding standard certification must earn Ohio certification.

The Graduate Record Examination is not required for admittance to the School of Music. However, any student who anticipates applying for financial assistance should take the GRE prior to entering a graduate program in music.

Personal auditions and interviews should be arranged by all candidates. Taped auditions will be accepted only if a personal audition is difficult or impossible. Candidates in composition must submit a score and, if possible, include tapes.

After admission has been granted, placement examinations are given to all entering graduate students during registration week of the first quarter of enrollment. An incoming student is required to demonstrate performance ability on his or her principal instrument and to take a proficiency test in theory and history and literature of music. Music education majors are required to take an additional examination in music education. The results of these placement tests are used in planning the student's course of study. Applied majors must demonstrate graduate-level performance proficiency. Deficiencies in undergraduate preparation should be remedied during the first year of study.

Qualified applicants may apply for admission to the School of Music graduate programs for any quarter. All application materials must be submitted 30 days prior to the quarter in which the student plans to begin his or her graduate program. Students seeking financial aid for the following academic year must submit application materials by March 1.

PHILOSOPHY

Only students who have averaged 3.0 B in their undergraduate courses in philosophy and 2.5 in other undergraduate courses will be admitted as students in philosophy. It is recommended that for every unit of graduate major a student have taken at least 27 quarter hours or 36 semester hours of undergraduate courses in ethics, symbolic logic, the history of philosophy, and the history of contemporary philosophy.

The student seeking a degree in philosophy should complete the following: at either, two sets of

The thesis plan involves completion of 45 quarter hours, including one course from each of two of the following three groups: A 518 Plato, 519 Aristotle, B 528 Continental Rationalism, 529 British Empiricism, 538 Kant, C 514 Analytic Philosophy, 518 Pragmatism, 558 Contemporary German Philosophy, 559 Contemporary French Philosophy, 568 Phenomenology, and one course from each of the following: 1 530 Contemporary Ethical Theory, 531 History of Ethical Theory, 532 Problems of Aesthetics, 540 Contemporary Social Philosophy, 2 516 Philosophy of Science, 520 521 522 523 524 advanced logic courses, 530 Theory of Knowledge, 551 Metaphysics, and submission of an acceptable thesis.

The comprehensive examination plan requires completion of 10 quarter hours and passing comprehensive examinations on selected readings.

PHYSICS

Master of science, master of arts and doctor of philosophy programs are offered in physics. The principal areas of research include cosmic physics, elementary particles, nuclear physics, ultrasonics, low temperature and solid state physics. Both experimental and theoretical studies are in progress in most of these areas; there are also theoretical studies in many-body problems, nonlinear mechanics, relativity and electrodynamics. Special programs of graduate work outside these areas, or fully interdisciplinary programs, can in appropriate cases be devised to suit particular interests.

A student should present evidence of successful undergraduate work in mathematics, mechanics, electricity and magnetism, thermodynamics, optics, atomic and nuclear physics and quantum mechanics. It is recommended that applicants take the Graduate Record Examination, including the advanced test for physics. Deficiencies of undergraduate preparation should not deter a prospective student with an otherwise good record, as these may be made up during the first year of graduate study. The program of study is developed for each student in close consultation with faculty advisors; emphasis is given both to individual needs and to general broad requirements.

The MS degree can be earned either under a nonthesis option, which nonetheless requires satisfactory completion of a work project, or by submission of a research thesis. For the MA degree a scholarly paper is required on a special topic, not confined to the research areas listed above.

No fixed number of credits is required for the PhD, but the student must pass a comprehensive examination which consists of a written and an oral part, usually taken after two years of graduate study, one year for students entering with an MS degree. For the PhD degree a student must satisfy the department that he or she has an adequate reading knowledge of at least French, German or Russian. Research is conducted under the supervision of an advisor and reviewed periodically by each student's dissertation committee. A final oral examination is held on the subject matter of the dissertation.

There are no specific deadlines but most applications for financial aid are received by March 1 and most offers are made by April 15. Most students enter the physics program in the fall, since also add the preceding summer session. Entry during the academic year is possible although not generally encouraged. For all details concerning graduate programs, write to the chairman of the physics graduate committee.

PSYCHOLOGY

The master of science or master of arts degree is granted after 45 quarter hours of acceptable work including a research thesis. A specialized master's degree emphasizing experimental, school, or teaching of psychology is offered for those who want specialization in a specific area but do not

wish to complete the PhD. A total of 70 quarter hours is required for this degree. It may be a terminal degree or a basis for continuing in doctoral study.

Doctoral programs are offered in general-developmental, general-experimental, general-social, industrial, counseling, and clinical psychology. The clinical program is approved by the American Psychological Association. For the doctor's degree the student must satisfactorily complete a scholarly tool which has been accepted by his or her advisory committee. Each doctoral candidate will be required to do some teaching, professional, or clinical work under supervision, the specific amount to be determined by past experience and needs, but not less than the equivalent of three academic quarters of work. A research dissertation is required and a year's internship at an APA-approved facility is also required for the clinical or counseling PhD. Comprehensive examinations are given at both the master's and doctor's levels. The department is scientifically oriented, requiring a core of courses in statistics and systems of psychology of all doctoral students.

Applicants for graduate study are expected to have completed a minimum of 27 quarter hours of undergraduate psychology, including statistics and experimental psychology. Applicants must submit scores on the Graduate Record Examination, including the aptitude test and advanced test in psychology, and three letters of recommendation from psychologists. They also must have a minimum overall undergraduate average of 3.0 ($A=4$). An applicant for the doctoral program who has a master's degree from another university must hold that degree in psychology and have a minimum graduate average of 3.4, and must submit the test scores and recommendations required of a beginning graduate student, plus the Miller Analogies Test score.

The Department of Psychology strongly encourages students to begin their graduate programs in the fall quarter. Application materials must be received by February 15. Application materials from students seeking financial aid must also be received by February 15.

RADIO-TELEVISION

(Including Mass Communication)

The School of Radio-Television offers a program of study leading to the master of arts degree in radio-television. Also, in conjunction with the School of Journalism, it offers the degree of doctor of philosophy in mass communication. Individual programs are designed around sequences of graduate courses offered in the areas of media management and economics, mass media research, writing and production, history and criticism of mass media, theory and social effects of the media.

Laboratory facilities are provided by stations WOUB-AM-FM-TV. Practical application of such concepts as industry economics and management, as well as field research in media uses and impact, is provided through an ongoing program of contract studies which the school's Broadcast Research Center conducts for commercial broadcasters, foundations and government agencies.

Admission to the Graduate College for study in radio-television at the master's level requires a baccalaureate degree with an overall average of at least 2.5 on a 4.0 scale. The student may pursue either a thesis or a nonthesis option leading to the master's degree. Admission for study at the doctoral level requires a completed master's degree.

On occasion, the applicant whose grade point average is below the prescribed minimum may be admitted conditionally, if additional supporting evidence suggests such admittance. All applicants are required to submit letters of recommendation to the School of Radio-Television. Scores of either the Graduate Record Examination aptitude test or the Miller Analogies Test are also required.

Graduate programs in radio-television are prepared individually for each student and are designed to help him reach his personal and career goals by optimum use of the school's resources. The master's student is prepared for effective contributions to the fields of electronic communication media. The PhD is a research degree which prepares the student for a career in college teaching or advanced media research.

To permit an adequate review of credentials, all application materials should be filed two months prior to the beginning of the quarter in which study is to be initiated, unless entry is sought in fall quarter; fall term applicants should file their materials no later than May 1. Those who also wish to be considered for financial aid through the School of Radio-Television must complete their applications before February 15.

SOCIOLOGY

The master of arts program in this department is designed to maximize flexibility in meeting student needs and interests congruent with the study of sociology at the graduate level. General departmental and Graduate College requirements are specified in respective departmental and Graduate College documents. In addition to the satisfaction of these general departmental and Graduate College requirements, the student is responsible for the design of the substance of his or her thesis or nonthesis program. In conjunction with this responsibility, the student is expected to consider carefully department offerings and the particular strengths of the faculty in deciding whether or not to make application to the graduate program. A listing of faculty and their interests is provided by the department upon inquiry by the prospective student.

The master's degree in sociology may include supplementary integrative work in related disciplines, *e.g.*, government, philosophy, psychology, economics, history, literature, mass communication, area studies, mathematics, black studies, geography, computer science, linguistics and anthropology. When exercising this option, it is the student's responsibility to demonstrate the integrative nature of such supplementary work.

Although this department does not adhere rigidly to undergraduate prerequisites, a prospective student should have completed a minimum of 20 hours in sociology including a course in statistics. The student should have an overall average of 3.0 (on a 4.0= A scale), and should have at least a 3.0 average in undergraduate courses in sociology. Because substantial consideration will be given to the applicant's reasons for wishing to pursue graduate study in sociology at Ohio University, the prospective student is asked to make the usual application to the Graduate College but must supplement that application directly to the department on separate forms provided.

An applicant should arrange for letters of recommendation from three persons qualified to evaluate capacity for graduate study in sociology. A limited number of teaching and research assistantships are available. More information may be obtained by writing to the Chairperson, Graduate Committee, Department of Sociology. (Prospective students should note that there is no PhD degree program in sociology, and that no graduate degree is offered in anthropology. Persons interested in degree work in social work, education or other possibly related areas should address inquiries to the appropriate department or college.)

Applications for admission will be accepted until one month prior to the beginning of any quarter. Applications for financial aid ordinarily must be completed by March 1.

THEATER

The School of Theater offers programs leading to the master of arts and master of fine arts degrees.

An applicant must have earned a baccalaureate degree from an accredited college or university and be able to demonstrate motivation and talent for the program of his or her choice.

The MA degree provides a major in theater history and dramatic literature. A minimum of 45 credit hours, a comprehensive examination or thesis and a residence of three quarters are required. The thesis will be of an historical or critical nature.

The MFA is a professional degree and requires a minimum of 72 credit hours (12 of which may or may not be thesis) and six quarters residence. The major field may be selected from acting, directing, production design, playwriting or children's theater. An applicant for one of these programs must demonstrate his or her qualifications by audition, submission of portfolio or manuscript and/or interview. Throughout the program the student will be closely observed and his or her progress reviewed at intervals. At the end of any quarter, the student may be asked to modify his or her program, transfer to another program or be denied further enrollment as a degree candidate in the school.

Students applying for admission to the Acting and Directing programs must begin the program in the fall quarter. Students applying for admission to the Playwriting and Production Design programs are encouraged to begin the program in the fall quarter. Application materials for these programs must be received by April 15. An MA degree candidate may apply for admission for any quarter. Applicants seeking financial aid for the following academic year must submit application materials by March 30.

ZOOLOGY AND MICROBIOLOGY

For admission to graduate study in zoology or microbiology a student must have an accredited baccalaureate degree and have a strong background in the biological sciences. In addition, training in mathematics (including calculus), physics and organic chemistry is required. Deficiencies must be removed sometime during the course of graduate study. Results of the quantitative, verbal and advanced biology tests of the Graduate Record Examination are required of all applicants. Applications are accepted and students admitted to programs throughout the year, but applications and associated information must be completed by April 1 for students to be considered for financial support during the following academic year.

Foreign applicants whose native language is not English must submit scores from either the Test of English as a Foreign Language (TEFL) or the English Test of the University of Michigan English Language Institute, Ann Arbor, Michigan.

Master's candidates are expected to complete 45 quarter hours, including a minimum of 29 hours of formal courses and seminars. A nonthesis master's program is available for secondary school or junior college teachers.

Doctoral candidates are recommended to complete 135 quarter hours, including a minimum of 45 hours of formal courses and seminars. Proficiency of reading knowledge of one foreign language and one scholarly discipline such as bio-statistics or computer science is required for all doctoral candidates.

Research may be done in one of the following areas: cell biology, ecology, entomology, ethology, microbiology, physiology and vertebrate and invertebrate zoology.

At least one quarter of supervised teaching within the department is required of all master's students during their tenure in the department. Doctoral candidates have a two-quarter teaching obligation.

INDIVIDUAL PROGRAMS OF STUDY

A graduate student with considerable experience and demonstrated ability and intellectual

UNIVERSITY ADMINISTRATION

Senior Administrators

Charles J. Ping, PhD, *President of the University*
Robert E. Mahn, MA, *Assistant to the President and Secretary of the University*
Taylor Culbert, PhD, *Provost*
Wm. Charles Culp, MEd, *Vice President for Administrative Services*
James C. Bryant, PhD, *Acting Vice President for Regional Higher Education*
Martin L. Hecht, BSC, *Vice President for University Relations*
John F. Milar, MBA, *Vice President and Treasurer of the University*
E. Dale Mattmiller, M.D., *Acting Vice President for Academic Services*

The Graduate College

Norman S. Cohn, PhD, *Dean of the Graduate College and Director of Research*
John R. Collier, PhD, *Associate Dean for Graduate Study and Research*
James M. Gault, BSEd, *Director of Graduate Admissions and Advising*
Pamela C. Tilling, MA, *Administrative Associate of the Graduate College*
Irene E. Roach, MS, *Administrative Assistant to the Dean*

The Graduate Council

Norman S. Cohn, PhD, *Chairman, Dean of the Graduate College; Director of Research; Distinguished Professor of Botany*
Charles Alexander, PhD, *Professor of History*
Hollis Chen, PhD, *Professor of Electrical Engineering*
G. Richard Danner, PhD, *Associate Professor of Modern Languages*
Frank Fieler, PhD, *Professor of English*
Robert Goyer, PhD, *Professor of Interpersonal Communication*
David Hendricker, PhD, *Professor of Chemistry*
Surender Jain, PhD, *Professor of Mathematics*
M. Barry Katz, PhD, *Associate Professor of Comparative Arts*
Donald Knox, PhD, *Associate Professor of Education*
Svenn Lindskold, PhD, *Professor of Psychology*
Algis Mickunas, PhD, *Associate Professor of Philosophy*
Bobbie Schmidt, PhD, *Associate Professor of Health, Physical Education and Recreation*

John Stinson, PhD, *Professor of Management*
Ted Coonfield, *President of the Graduate Student Council*
Chandrakant Ghantiwala, *Graduate Student*
Julianne Sliwinski, *Graduate Student*

The College of Osteopathic Medicine

Gerald A. Faverman, PhD, *Acting Dean*
Ronald A. Black, MA, *Associate Dean for Planning*
Richard E. Ham, PhD, *Associate Dean for Administration*
Frank W. Myers, DO, *Associate Dean for Clinical Affairs*
J. Langdon Taylor, Jr., PhD, *Associate Dean for Student Affairs*
Charles G. Atkins, PhD, *Acting Associate Dean for Basic Sciences*

Colleges and Academic Programs

University College . . Don M. Flournoy, PhD, *Dean*
College of Arts and Sciences
John D. Jewett, PhD, *Dean*
College of Business Administration
John M. Peterson, PhD, *Dean*
College of Communication
John R. Wilhelm, BA, *Dean*
College of Education
Samuel Goldman, PhD, *Dean*
College of Engineering and Technology
Richard S. Mayer, PhD, *Dean*
College of Fine Arts . . Henry H. Lin, MFA, *Dean*
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Ohio University Bulletin

Graduate Catalog 1976-77 Part II, Course Descriptions
September 1976

Ohio University Bulletin

Graduate College 1976-77
Part II, Course Descriptions

The programs and requirements contained in this bulletin are effective with the 1976 fall quarter. They are necessarily subject to change without notice at the discretion of the University.

Each student should assume responsibility for knowing current Graduate College requirements and for complying with current procedures.

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EQUAL OPPORTUNITY. It is the policy of Ohio University that there shall be no discrimination against any individual because of race, color, creed, national origin, sex, or handicap in educational programs, activities and employment practices. Also, there shall be no discrimination because of age except in compliance with age requirements of retirement plans or state and federal laws and guidelines. The University conducts a vigorous affirmative action program in order to promote equal employment opportunities.

ACADEMIC CALENDAR FOR 1976-77

The student should obtain from the Graduate College Office a detailed list of deadlines for the quarter in which he or she expects to receive the graduate degree.

FALL QUARTER, 1976

Sept. 21, Tues.	Registration
Sept. 22, Wed.	Classes begin
Oct. 5, Tues.	Last day for filing application and paying fee for conferral of degree on December 11
Nov. 11, Thurs.	Veterans Day (offices closed; classes in session)
Nov. 24, Wed.	Classes end at noon
Nov. 25, Thurs.	Thanksgiving Day holiday (offices closed; no classes)
Nov. 29, Mon.	Classes resume with first scheduled class
Dec. 11, Sat.	Quarter closing date

WINTER QUARTER, 1977

Jan. 3, Mon.	Registration
Jan. 4, Tues.	Classes begin
Jan. 17, Mon.	Last day for filing application and paying fee for conferral of degree on March 19
Mar. 19, Sat.	Quarter closing date

SPRING QUARTER, 1977

Mar. 28, Mon.	Registration
Mar. 29, Tues.	Classes begin
Apr. 11, Mon.	Last day for filing application and paying fee for conferral of degree on June 11
May 30, Mon.	Memorial Day holiday (offices closed; no classes)
June 11, Sat.	Quarter closing date; annual commencement

SUMMER QUARTER, 1977

(First Term)

June 20, Mon.	Registration; classes begin
June 24, Fri.	Last day for <i>graduate</i> students to file application and pay fee for conferral of degree on August 27
July 4, Mon.	Independence Day holiday (offices closed; no classes)
July 23, Sat.	Term closing date

(Second Term)

July 25, Mon.	Registration; classes begin
Aug. 27, Sat.	Quarter closing date

A graduate student must be registered in any quarter in which he or she is receiving any service from the University or using its facilities. A master's student must be registered for at least one hour and a doctoral student for at least two hours.

Courses of Instruction

The general policies and regulations of the Graduate College are published in the 1976-77 edition of *Ohio University Bulletin, Part I, General Information*.

Prospective students are invited to write to the chairman of the departmental graduate committee about any detailed information that is not included in the bulletin.

The programs and requirements described in this bulletin are necessarily subject to change without notice at the discretion of the University.

The italicized information following most course descriptions gives the following information: faculty name; quarter offered (F-fall, W-winter, Sp-spring, Su-summer); frequency with which the course is offered (A-alternate years, Y-yearly, D-on demand); last year in which the course was offered. For example, *Staff; Sp; D; 1974* means the course is taught by various members of the department on demand during spring quarter only and was last offered in 1974.

CATALOG NUMBER — The catalog number indicates the student classification for which the course is intended.

500-699 Master's level

700-899 Post-master's or doctoral level

CREDIT — Credit for a course is indicated by the number or numbers in parentheses following the course title.

In a course carrying variable credit the credit may be expressed thus: (1-4), indicating that one hour is the minimum and four hours the maximum amount of credit allowed for the course in one quarter. A student may enroll for a course with variable credit any number of times and for any number of quarter hours, within the quarter limit, provided the total registration for the course does not exceed the maximum credit indicated in the course description.

Course prerequisites are indicated at the beginning of course descriptions following the abbreviation, "Prereq:". A student who completes an advanced course may not subsequently enroll in a prerequisite course for credit.

CLASS SCHEDULE — A schedule of classes is available each quarter from the Office of Registration.

ACCOUNTING

501 Accounting Principles (4)
Intensive overview of accounting theory, practice and statement preparation.
Staff; F, W, Sp, Su, Y

501W Accounting Principles (3)
Intensive overview of accounting theory, practice and statement preparation. Accelerated workshop course for MBA students.
Staff; D

502 Accounting Principles (4)
Prereq: 501. Continuation of 501. See 501 for description.
Staff; F, W, Sp, Su, Y

502W Accounting Principles (3)
Prereq: 501W. Continuation of 501W. Intensive overview of accounting theory, practice and statement preparation. Accelerated workshop course for MBA students.
Staff; D

503 Accounting Principles and Procedures (4)
Fundamental accounting principles and practices emphasizing data accumulation using accounting techniques. Primarily intended for those specializing in accounting.
Staff; F, W, Sp, Y

504 Intermediate Accounting (4)
Preparation and analysis of accounting statements, special problems in accounting for current, fixed and intangible assets, for liabilities and for corporate worth, funds and reserves and investments.
Staff; F, W, Sp; Y

505 Intermediate Accounting (4)
Continuation of 504. See 504 for description.
Staff; F, W, Sp; Y

506 Advanced Accounting (4)
Problems peculiar to partnerships, receiverships, fiduciaries, installment sales, consignments, insurance, estates and trusts; compound interest applications; governmental accounting, branches, consolidation and mergers and foreign exchange.
Staff; F, W; A; 1975

507 Advanced Accounting (4)
Investigation of current topics.
Staff; Sp; Y

510 Cost Accounting (4)
Specialized problems of cost accumulation and analysis of manufacturing corporations. Emphasizes costs for making management decisions.
Staff; F, W, Sp, Su; Y

517 Federal Income Taxes (4)
Introduction to federal income tax system for individuals, partnerships and corporations.
Staff; F, W, Sp; A; 1975

540 Advanced Cost Accounting (4)
Prereq: 510. Analysis of relevant costs for decision-making including non-manufacturing costs. Current cost accounting topics.
Staff; Sp; D; 1974

547 Advanced Federal Income Taxes (4)
Advanced tax problems of individuals, partnerships and corporations with emphasis on tax research and tax methodology.
Staff; Sp; A; 1975

551 Auditing Principles (4)
Purposes and scope of audits and examinations; audit principles and procedure; audit reports and certificates.
Staff; F, Sp; A; 1975

601 Accounting Theory (4)
Development of accounting theory historically, current developments and literature in theory area.
Staff; F; D; 1974

602 Accounting Data Accumulation and Analysis (4)
Accounting systems with particular relations to computerized data processing and techniques in quantitative analysis of accounting data.
Staff; W; D; 1974

603 Information Interaction (4)
Problems and policy-forming decisions of control-function which comprise fields of general accounting, internal control, budgeting, taxes, cost control and financial reporting.
Staff; Sp; D; 1974

620 Advanced Accounting Problems (4)
Analysis, interpretation and solutions of complex accounting problems of type appearing in official CPA examinations.
Staff; Sp; D; 1974

630 Managerial Accounting (4)
Prereq: 501, 502, Fin 525. Planning and control of organizations through internal and external quantitative information, emphasizing techniques and theory of accounting and finance.
Staff; F; Y

691 Seminar (3-5)
Staff; F, W, Sp, Su, D; 1974

693 Readings (1-15)
Staff; F, W, Sp, Su, D; 1974

695 Thesis (1-15)
Staff; F, W, Sp, Su, D; 1974

697 Independent Research (1-15)
Staff; F, W, Sp, Su; D; 1974

698 Internship (1-15)
3 months of accounting work experience, preferably in a public accounting firm. Requirements include written and oral reports analyzing work experience and academic preparation for professional practice.
Staff; W; D; 1974

699 Research (3-5)
Staff; F, W, Sp, Su; D; 1974

AFRICAN STUDIES

(See International Affairs)

ANTHROPOLOGY

No graduate degree in anthropology is offered; however, some graduate courses are offered each quarter. These contribute particularly to degree programs in African studies, Latin American studies, Southeast Asian studies and sociology, as well as a wide range of other programs, such as communications, comparative arts, creative writing, dance, ecology, economics, education, film, foods and nutrition, geography, government, linguistics and philosophy.

550 Economic Anthropology (5)
Prereq: 571 and perm. Survey of economic arrangements found in various types of cultural systems with emphasis on application of anthropological theory and method for understanding particular systems.
Save; A, D; 1975

551 Political Anthropology (5)
Prereq: 571 and perm. Cross-cultural survey of political arrangements with emphasis on application of anthropological method and theory to political problems.
Staff; D; 1973

552 Paleoethnology (5)
Prereq: 571 and perm. Introduction to the "new archaeology" in which goals, theory and method are directed toward reconstruction of extinct socio-cultural systems rather than toward time-space distribution of archaeological materials.
Save; D; 1972

557 Anthropology of Religion (5)
Prereq: 571 and perm. Survey of various aspects of religion in their cultural setting with emphasis on use of anthropological theories for an objective understanding of religion.
Wood; F; A; 1975

558 Women: A Cross-Cultural Survey (5)
Prereq: 571 and perm. Cross-cultural survey of life conditions of women with emphasis on factors determining role and status of women in various types of cultures.
Baugh; A, D; 1976

566 Cultures of the Americas (5)
Prereq: 571 and perm. Survey of cultural diversity present in South, North or Meso-America with emphasis on application of anthropological method and theory to understanding of particular socio-cultural systems.
Staff; F, A, D; 1974

571 Ethnology (5)
Prereq: perm. Cross-cultural survey of structure and process in various cultures, including consideration of kinship, economics, politics and ideology.
Wood; F, Su; Y, D; 1976

572 History of Anthropological Thought (5)
Prereq: 571 and perm. In-depth examination of schools of anthropology as they have developed within various sub-fields at different times and places.
Bausch or Staff; D; 1976.

575 Culture and Personality (5)
Prereq: 571 or perm. Interrelations between personality systems and cultural systems.
Wood; A; 1975.

576 Culture Contact and Change (5)
Prereq: 571 and perm. Impacts of cultures upon one another: immediate and subsequent cultural adaptations.
Staff; A; 1973.

577 Peasant Communities (5)
Prereq: 571 and perm. Focuses upon folk component of state societies.
Wood; A; 1976.

578 Cultural Ecology (5)
Prereq: 571 and perm. Analysis of mutual and reciprocal relations between socio-cultural systems and other systems in their environment; ecosystems and biotic communities in which human populations are included.
Saxe; A, D; 1975.

581 Cultures of Sub-Saharan Africa (5)
Prereq: 571 and perm. Survey of cultural diversity in Sub-Saharan Africa with emphasis on application of anthropological theory and method to understanding of particular socio-cultural systems.
Saxe; W; D; 1976.

585 Cultures of Southeast Asia (5)
Prereq: 571 and perm. Survey of cultural systems of island and mainland Southeast Asia.
Staff; W; Y; 1976.

586 Problems in Southeast Asian Anthropology (5)
Prereq: 571 and perm. Selected topics of current theoretical concern relating to Southeast Asia.
Wood; Sp; Y; 1976.

587 Cultures of Oceania (5)
Prereq: 571 and perm. Anthropological survey of Melanesia, Polynesia and Micronesia.
Bausch, Wood; A, D; 1976.

591 Primate Social Organization (5)
Prereq: perm. Introduction to primate ethnology, with reference to development of human cultural behavior.
Koertvelyessy; A; 1975.

592 Human Evolution (5)
Prereq: perm. Basic principles of synthetic theory of evolution, development of mammals and evolution of primates, with emphasis on Pongidae and Homiidae.
Koertvelyessy; A; 1975.

594 Seminar in Anthropology (4-6)
Prereq: 571 and perm. Selected topics.
Staff; Y, D; 1976.

599 Readings in Anthropology (1-3, max 8)
Prereq: 571 or perm. Supervised readings in all areas of anthropology. Make individual arrangements with particular faculty member. Available every qtr.
Staff; F, W, Sp, Su; Y; 1976.

ART

The graduate program leading to a master of fine arts degree with a major in ceramics, painting, printmaking or sculpture requires the completion of at least 90 quarter hours of graduate work including 12 hours of art history and 10 hours of studio thesis.

The master of arts degree in art education requires the completion of 45 quarter hours of graduate work including 12 art history and 12 art education hours for students with teaching certificates. A cooperative arrangement with the College of Education makes it possible for uncertified

candidates to earn a teaching certificate and the master of arts simultaneously. Students seeking certification at the graduate level must have completed an undergraduate major in a studio area (painting, printmaking, ceramics, sculpture, crafts) and have a 3.0 undergraduate accumulative average. Graduate certification programs are individually designed.

As part of admissions procedures, each applicant for the MFA or MA must submit three letters of recommendation and a portfolio to the director of the School of Art. A personal interview with faculty members of the area of concentration is also recommended.

505 Painting (3-6)
Staff; F, W, Sp, Su; Y; 1975.

506 Painting (3-6)
Prereq: 505.
Staff; F, W, Sp, Su; Y; 1975.

515 Ceramics (3-6)
Staff; F, W, Sp, Su; Y; 1975.

516 Ceramics (3-6)
Prereq: 515.
Staff; F, W, Sp, Su; Y; 1975.

518 Glass (3)
Continuation of glassblowing and introduction to glasscasting and production techniques.
Schmidt; F, W, Sp; Y; 1975.

519 Glass (3)
Prereq: 518. Continuation of 518. See 518 for description.
Schmidt; F, W, Sp; Y; 1975.

531 Sculpture (3-6)
Staff; F, W, Sp, Su; Y; 1975.

532 Sculpture (3-6)
Prereq: 531.
Staff; F, W, Sp, Su; Y; 1975.

541 Printmaking (3-6)
Staff; F, W, Sp, Su; Y; 1975.

542 Printmaking (3-6)
Prereq: 541.
Staff; F, W, Sp, Su; Y; 1975.

560 Studies in Art Education (3)
Critical study of historical and contemporary philosophy and investigation into related research. Individual planning for research projects.
Staff; F; Y; 1975.

561 Research in Art Education (3)
Prereq: 560. Original research under direction of advisor.
Staff; W; Y; 1975.

562 Research in Art Education (3)
Prereq: 561. Continuation of 561. See 561 for description.
Staff; Sp; Y; 1975.

563 Proseminar in Art Education (3)
Presentation and evaluation of student research projects.
Staff; Sp; Y; 1975.

605 Painting (3-6)
Prereq: 506.
Staff; F, W, Sp, Su; Y; 1975.

606 Painting (3-6)
Prereq: 605.
Staff; F, W, Sp, Su; Y; 1975.

615 Ceramics (3-6)
Prereq: 516.
Staff; F, W, Sp, Su; Y; 1975.

616 Ceramics (3-6)
Prereq: 615.
Staff; F, W, Sp, Su; Y; 1975.

631 Sculpture (3-6)
Prereq: 532.
Staff; F, W, Sp, Su; Y; 1975.

632 Sculpture (3-6)
Prereq: 631.
Staff; F, W, Sp, Su; Y; 1975.

641 Printmaking (3-6)
Prereq: 542.
Staff; F, W, Sp, Su; Y; 1975.

642 Printmaking (3-6)
Prereq: 641.
Staff; F, W, Sp, Su; Y; 1975.

705 Painting (3-6)
Prereq: 606.
Staff; F, W, Sp, Su; Y; 1975.

706 Painting (3-6)
Prereq: 705.
Staff; F, W, Sp, Su; Y; 1975.

715 Ceramics (3-6)
Prereq: 616.
Staff; F, W, Sp, Su; Y; 1975.

716 Ceramics (3-6)
Prereq: 715.
Staff; F, W, Sp, Su; Y; 1975.

731 Sculpture (3-6)
Prereq: 632.
Staff; F, W, Sp, Su; Y; 1975.

732 Sculpture (3-6)
Prereq: 731.
Staff; F, W, Sp, Su; Y; 1975.

741 Printmaking (3-6)
Prereq: 642.
Staff; F, W, Sp, Su; Y; 1975.

742 Printmaking (3-6)
Prereq: 741.
Staff; F, W, Sp, Su; Y; 1975.

780 Individual Problems (1-6)
Staff; F, W, Sp, Su; Y; 1975.

781 Individual Reading (1-3)
Staff; F, W, Sp, Su; Y; 1975.

805 Painting Written Thesis (2-6)
Staff; F, W, Sp, Su; Y; 1975.

806 Painting Studio Thesis (5-10)
Staff; F, W, Sp, Su; Y; 1975.

815 Ceramics Written Thesis (2-6)
Staff; F, W, Sp, Su; Y; 1975.

816 Ceramics Studio Thesis (5-10)
Staff; F, W, Sp, Su; Y; 1975.

831 Sculpture Written Thesis (2-6)
Staff; F, W, Sp, Su; Y; 1975.

832 Sculpture Studio Thesis (5-10)
Staff; F, W, Sp, Su; Y; 1975.

840 Prints Written Thesis (2-6)
Staff; F, W, Sp, Su; Y; 1975.

841 Prints Studio Thesis (5-10)
Staff; F, W, Sp, Su; Y; 1975.

ART HISTORY

The graduate program leading to a master of fine arts degree in art history involves the completion of at least 90 quarter hours of graduate work including the major sequence in art history, studio minor and ten hours written thesis.

The student must submit three letters of recommendation to the director of the School of Art at the time of application for admission. Proof of reading competence in French or German is also required.

520 Greek Art (4)
Specific developments in period between Minoan/Helladic cultures and those of Alexandrian Empire.
Staff; D; 1974.

521 Roman Art (4)
Motifs and concepts ranging from Etruscan artifacts through Hellenistic to advent of Constantine.
Staff; W; Y; 1975.

- 522 Medieval Art (4)**
Painting and sculpture from time of Constantine to Giotto.
Staff, W; F; 1975
- 523 Italian Renaissance Art (4)**
Monuments, motifs and their implications in Quattrocento Italy.
Katz, E; F; 1974
- 524 Northern Renaissance Art (4)**
Arts of northern Europe to 1550.
Heiz, S; F; 1974
- 525 Art of High Renaissance and Mannerism (4)**
Art and theory of the Cinquecento.
Katz, D; 1975
- 526 Baroque and Rococo Art (4)**
Painting and sculpture of 17th and 18th centuries.
Heiz, F; F; 1975
- 527 Art of 19th Century (4)**
Arts and their development during and after Industrial Revolution.
Staff, E; A; 1975
- 528 Modern Art (4)**
Specific movements and artists since 1900.
Staff, S; A; 1975
- 529 The Arts of the United States (4)**
Specific problems and their patterns from Colonial era.
Schumidler; S; A; 1974
- 530 The Arts of the Orient (4)**
Selected studies in arts of India, China and Japan.
Schumidler, E; A; 1975
- 531 Pre-Columbian Art (4)**
Arts of early Mexico, Middle and South America.
Perani; W; A; 1975
- 532 African Art (4)**
Artifacts of tribes of Niger and Congo Basins and their relationships.
Perani; W; A; 1975
- 533 Near Eastern Art (4)**
Motifs and monuments of Egypt, Mesopotamia, Assyria and Babylonia.
Schumidler; S; A; 1975
- 537 History of Photography (4)**
History and development of photography as art, science and industry. Leading photographers and their contributions to development of the art.
Gassan; E; F; 1975
- 538 History of Photography (4)**
Continuation of 537. See 537 for description.
Gassan; W; F; 1975
- 539 History of Photography (4)**
Continuation of 537 and 538. See 537 for description.
Gassan; S; F; 1975
- 540 Art and Ideas in Painting (4)**
Staff, Y; 1975
- 550 Seminar in Art History (3)**
Offered on demand. Intensive study of projects of limited scope.
Staff, D
- 560 Art Historiography (4)**
Katz, S; F; 1975
- 780 Individual Problems (1-6)**
Staff, L, W, S; Sp, Su, F; 1975
- 781 Individual Reading (1-3)**
Staff, E, W, S; Sp, Su, F; 1975
- 800 Art History Thesis (1-15)**
Staff, L, W, S; Sp, Su, F; 1975

ART, PHOTOGRAPHY

Two graduate degrees in photography are offered.

The master of arts program advanced work in the applications of photography. The degree entails 90 quarter hours. Four of these approximately four quarters drawn from the 500 level including

the four required courses (bearing asterisks) and concluding with a portfolio of work to be presented to the department during the last quarter of study.

The master of fine arts program is designed for applicants in an art program. The degree entails 90 quarter hours, approximately six quarters, as follows: 20 hours of the four required courses at the 500 level, 30 hours from the 600-800 level graduate electives, 20 hours of art history, ten hours of studio thesis and ten hours of nonphotographic graduate studio art.

The student must submit a portfolio and three letters of recommendation to the director of the School of Art at the time of application for admission.

591A Photographic Processes* (5)
Prereq: grad rank. Intensive study of black and white materials and their creative uses. 2 lec, 6 lab. Total of 10 hrs is required from 591 series.
Gassan; E; F; 1975

591B Photographic Processes* (5)
Prereq: grad rank. Continuation of 591A. See 591A for description.
Gassan; W; F; 1975

591C Photographic Processes* (5)
Prereq: grad rank. Continuation of 591A and 591B. See 591A for description.
Gassan; S; F; 1975

592A Multiple Images (5)
Prereq: grad rank. Camera reporting and documentaries; essays and picture stories; book layout; experimental work with multiple images for any desired single or accumulative effect. 2 lec, 6 lab.
Eiler; E; F; 1975

592B Multiple Images (5)
Prereq: grad rank. Continuation of 592A. See 592A for description.
Eiler; W; F; 1975

592C Multiple Images (5)
Prereq: grad rank. Continuation of 592A and 592B. See 592A for description.
Eiler; S; F; 1975

593A Combined Applications (5)
Prereq: grad rank. Fundamentals of portraiture. 2 lec, 6 lab.
Eiler; S; F; 1975

593B Combined Applications (5)
Prereq: grad rank. Fundamentals of advertising and commercial work. 2 lec, 6 lab.
Eiler; W; F; 1975

593C Combined Applications (5)
Prereq: grad rank. Fundamentals of architectural and industrial renditions.
Eiler; S; F; 1975

594A Color Materials and Methods* (5)
Prereq: grad rank. Theory of color practice with transparencies, materials, color negatives, direct separations, separations from transparencies, mask-making and color printing methods. 1 lec, 8 lab. Total of 10 hours required in 594 series.
Staff, E; F; 1975

594B Color Materials and Methods* (5)
Prereq: grad rank. Continuation of 594A. See 594A for description.
Staff, W; F; 1975

594C Color Materials and Methods* (5)
Prereq: grad rank. Continuation of 594A and 594B. See 594A for description.
Staff, S; F; 1975

691A Graduate Study in Photographic Arts (5-10)
Prereq: grad rank. Individual practice under instructor's supervision. Max of 10 hrs allowed from 691 series.
Staff, L; F; 1975

691B Graduate Study in Photographic Arts (5-10)
Prereq: grad rank. Continuation of 691A. See 691A for description.
Staff, W; F; 1975

691C Graduate Study in Photographic Arts (5-10)
Prereq: grad rank. Continuation of 691A and 691B. See 691A for description.
Staff, S; F; 1975

791A Advanced Study in Photographic Arts (5-10)
Prereq: grad rank, 10 hrs in 691 series. Individual practice under instructor's supervision. Max of 15 hrs allowed from 791 series.
Staff, E; F; 1975

791B Advanced Study in Photographic Arts (5-10)
Prereq: grad rank, 10 hrs in 691 series. Continuation of 791A. See 791A for description.
Staff, W; F; 1975

791C Advanced Study in Photographic Arts (5-10)
Prereq: grad rank, 10 hrs in 691 series. Continuation of 791A and 791B. See 791A for description.
Staff, S; F; 1975

891 Photography Written Thesis (6)
Staff, L, W, S; Sp, Su, F; 1975

892 Photography Studio Thesis (5-10)
Staff, E, W, S; Sp, Su, F; 1975

AUDIOLOGY

(See Hearing and Speech Sciences)

BACTERIOLOGY

(See Zoology and Microbiology)

BIOLOGY

(See Botany or Zoology)

BOTANY

Doctor of philosophy and master of science degree programs are offered in the following areas of specialization: biochemistry, cell biology, ecology, morphology, mycology, paleobotany, physiology, pteridology and systematics.

To begin graduate study the student must have at least 24 quarter hours, or the equivalent, of botany and/or related biological sciences. Applicants also must have completed calculus, inorganic chemistry and physics. Deficiencies in undergraduate preparation may be eliminated during the course of graduate study. Scores from both the aptitude and biology advanced tests of the Graduate Record Examination are suggested. Foreign applicants whose native language is not English must submit scores from either the English Test of the University of Michigan English Language Institute, Ann Arbor, Michigan or the Test of English as a Foreign Language (TOEFL) as an evaluation of English proficiency.

Organic chemistry is required for completion of graduate degrees. Coursework in biochemistry and proficiency in one foreign language (French, German, Russian or other, depending on research needs) are required for the PhD degree. All graduate students in botany are required to teach a minimum of two quarters during their tenure in the department. A research thesis, MS or dissertation (PhD) resulting from original research is required. A nonthesis terminal MS degree is also available.

604 Plant Physiology (5)
Prereq: organic chemistry (winter). Critical examination of experimental basis of plant physiology. Topics include: water relations; uptake and transport of ions and non-ionic compounds; plant growth regulators and their roles in growth and development; and carbon, nitrogen and sulfur metabolism in plants.
Smith, W; F; 1976

625 Plant Ecology (5)

Prereq: perm. Environmental factor effects on species growth and distribution; review of recent ecological literature. 3 lec, 4 lab, 1 Saturday field trip.

Ungar ar Wistendahl; F; Y; 1975.

626 Vegetation Analysis (5)

Prereq: perm. Analysis of natural plant communities and readings in literature of community ecology. 3 lec, 4 lab, 1 Saturday field trip.

Wistendahl; Sp; A; 1976.

633 Paleobotany (5)

Prereq: perm. (spring). Morphology, evolution and stratigraphic position of representative fossil plant groups. Field trips.

Rathwell; D; 1973.

640 Molecular Genetics (4)

Prereq: perm. (alternate winter). Fine structure of gene, biochemistry of gene action, cytoplasmic inheritance. 4 lec.

Staff; D.

650 Instrumentation and Techniques (5-10)

(fall). Instruments and techniques used in solution of contemporary biological research problems. Theoretical and practical aspects included. 5 lec.

Staff; D.

654 Phycology (5)

Prereq: perm. Classification, nomenclature, relationships, morphology, reproduction, life histories and economic importance of fresh-water and marine algae. 3 lec, 4 lab.

Graffius; W; A; 1976.

655 Biology of Fungi (5)

Prereq: perm. (fall). Life history, morphology, classification, cytology and physiology, including collection, isolation and culture of selected fungi. 3 lec, 2 2-hr lab.

Müller; F; Y; 1974.

695 Thesis (1-15)

Prereq: perm. Formal presentation of results of research as partial fulfillment of requirements for MS degree. Hrs not counted toward degree.

Staff; F, W, Sp, Su; Y.

732 Cytology (5)

Prereq: perm. Biochemical, cytochemical and ultrastructural aspects of cytoplasmic organelles, mitosis, meiosis and cellular differentiation.

Mitchell; Y; 1975.

751 Plant Biochemistry (5)

Prereq: perm. (alternate spring). Critical examination of current biochemical literature. Topics include: isolation, purification and chemistry of proteins; properties and mechanisms of action of enzymes; principles governing biochemical reactions and regulation of reactions and reaction sequences in bacteria and plants.

Smith; Sp; Y; 1976.

752 Topics in Cell Biology (2-5)

Prereq: perm. Advanced discussion courses offered when there is sufficient student interest in a significant current topic.

Staff; D.

752A Plant Cytology (5)

Prereq: 732. Structure and function of cytoplasmic organelles; mitosis and meiosis in relation to development.

Mitchell; F; D; 1975.

752B Cell Division and Differentiation (5)

Prereq: 732. Discussion of recent literature concerning cell cycle and how cell cycle relates to differentiation within organisms.

Staff; D; 1972.

752C Ultrastructure (5)

Prereq: 732. Techniques for studying and organization of submicroscopic biological structures.

Braseltan; D; 1973.

752E EM Techniques (5)

Prereq: perm of EM Committee. Operation of transmission electron microscope and ancillary equipment, ultramicrotomy and fixation-embedding procedures for plant material. Open only for botanical graduate students requiring TEM for thesis or dissertation research.

Braseltan; Sp; Y; 1976.

753 Developmental Physiology (5)

Prereq: perm. (alternate spring). Advanced physiology lecture course. Growth and developmental

phenomena with special emphasis on flowering plants. Topics include cell growth and differentiation in developing meristems; tissue and organ development and culture; dormancy and germination; flower induction; seed formation; hormones; senescence; plant movements; phytochrome; salt stress and holocoenotic effects of environment on morphogenesis.

Jaffe; Y; 1974.

754 Experimental Ecology (5)

Prereq: 623, 626 or perm. Theory and methods involved in studying natural plant communities. 3 lec, 4 lab.

Ungar; W; Y; 1976.

757 Topics in Plant Ecology (5)

Prereq: perm. Theories and principles of plant distribution as related to evolution, migration and speciation of plants.

Staff; D; 1972.

758 Plant Systematics (6)

Prereq: perm. Floristic and experimental approaches, evolutionary processes and patterns, research tools and literature basis to classification in flowering plants. Emphasis in laboratory work on methods and practice in determining relationships between natural populations of plants at infrageneric level. 2 lec, 4 lab.

Lloyd; Sp; Y; 1976.

759 Topics in Fungi (2-6)

Prereq: perm. Advanced discussion courses offered when there is sufficient student interest in a significant current topic.

Staff; D; 1975.

759A Aquatic Phycomycetes (5)

Prereq: perm. Collection, isolation, culture, morphology, taxonomy and life histories of aquatic fungi with swimming spores.

Miller; W; A; 1973.

759B Ascomycetes (5)

Prereq: perm. Selected aspects of morphology, taxonomy, reproduction and morphogenesis of Ascomycetes.

Miller; D; 1972.

759C Cellular Slime Molds (5)

Prereq: perm. Developmental and ecological problems in cellular slime molds; review of current areas of research; use of cellular slime molds as research tools. 3 lec, 3 lab.

Cavender; W; D; 1976.

780 Advanced Topics in Botany (2-6)

Prereq: perm. Advanced discussion courses offered when there is sufficient student interest in a significant current topic.

Staff; D; 1974.

780A Histochemistry (5)

Prereq: perm. Theoretical and practical survey of available techniques for qualitative and quantitative analysis of cell and tissue constituents using microscopic procedures.

Mitchell; Sp; D; 1976.

780B Advanced Biochemistry (5)

Prereq: 751 and perm. Discussion of selected topics from current biochemical literature. Topics include regulation of amino acid biosynthesis, transport mechanisms, intracellular localization of enzymes and metabolites, photosynthetic carbon fixation.

Staff; D; 1974.

780C Vascular Morphology (5)

Prereq: perm. Comparative morphology, anatomy and life histories of vascular plants. 3 lec, 4 lab.

Rathwell; W; Y; 1976.

780E Radiation Biology (3)

Prereq: perm. Characteristics of ionizing radiation.

Matheus; Sp; Y; 1974.

780F Botanical Pedagogy (2-6)

Prereq: perm. Preparation for botanical teaching in colleges and universities.

Staff; F, W, Sp, Su; Y; 1976.

780G Supervised Study (2-6)

Prereq: perm. Supervised individual study under faculty guidance.

Staff; D; 1976.

780K Pteridology (5)

Prereq: 780C and perm. Reproductive biology, genetics, cytology, developmental physiology, morphology and classification of gametophytic and

sporophytic generations. Laboratory emphasis on experimental work with gametophytes and systematics. 2 lec, 3 lab.

Lloyd; D; 1974.

780L Halophyte Biology (2)

Prereq: perm. Current topics in factors influencing halophyte growth and distribution. Emphasis on current literature concerning ecology and physiology of halophytes.

Ungar; Sp; D; 1976.

780M Soil Microbiology (5)

Prereq: perm. Distribution and activity of microorganisms in soil. Topics include soil structure, organisms present, methods of examining soil populations, ecology and distribution of microorganisms. 3 lec, 3 lab.

Cavender; W; D; 1973.

780P Colloquium (1)

Prereq: grad rank. Discussions of current research by visiting scientists, faculty members and graduate students.

Staff; F, W, Sp; Y; 1976.

791 Seminar (1)

Prereq: perm. Graduate students present seminars on topics of current botanical interest.

Staff; F, W, Sp; Y.

795 Research (1-15)

Prereq: perm. Original research in field of major interest under supervision of student's major advisor. Results and conclusions resulting from research may be presented in MS thesis or PhD dissertation as partial fulfillment for respective degrees.

Staff; F, W, Sp, Su; Y.

895 Dissertation (1-15)

Prereq: perm. Scholarly account of original research in major area of interest as partial fulfillment of requirements for PhD degree.

Staff; F, W, Sp, Su; Y.

BUSINESS ADMINISTRATION

The Master of Business Administration Program is broad in nature and aimed at developing competence in overall management and administration. A highly integrated program that builds on a foundation of basic business knowledge, it emphasizes the mastery of advanced concepts and the application of these concepts for problem-solving and decision-making in business and other administration organizations.

The Master of Business Administration Program has two phases. Phase I consists of foundation courses aimed at the development of basic background knowledge in business and administration. Phase I requires course preparation in economics, accounting, marketing, finance, law, management, production, calculus and statistics. A student who has received a bachelor's degree in business administration will normally have completed these courses as a part of the undergraduate work. A student with a nonbusiness undergraduate degree will receive waivers of Phase I courses to the extent that he or she has taken them as a part of the undergraduate program.

There is an additional attractive option for the completion of Phase I requirements for non-business undergraduates. Phase I requirements may be completed through participation in accelerated summer workshop courses. Participation in the accelerated summer workshop courses makes it possible to complete the master of business administration program in approximately one calendar year.

Phase II helps the student develop a mastery of advanced concepts and provides opportunity for practical application of the concepts through coursework, individual study projects and the master's seminar. Phase II of the program consists of 45 quarter hours. All students are required to take the following courses: Operations Research, Organization Behavior, Managerial Ac-

counting, Managerial Economics, Marketing Management, Financial Decision-Making and Management Information Systems. In addition, all students participate in a year-long, integrated Master's Seminar. Students also participate in supervised individual study and complete eight hours of unrestricted electives. The individual study and the electives provide additional depth in the student's particular area of interest.

As part of the admissions procedure all applicants must submit three letters of recommendation and a score for the Graduate Management Admission Test, formerly known as the Admission Test for Graduate Study in Business (AUGSB), administered by Educational Testing Service, Princeton, New Jersey 08540. In addition, applicants from countries where English is not the native language must also submit a score for the English Language Test of the English Language Institute, University of Michigan, Ann Arbor, Michigan, or the Test of English as a Foreign Language (TOEFL).

510. Production Management (4)
Emphasis on organization of production function and its relationship to other management and functional activities.
Staff: F, W, Sp, Su; Y: 1974-75

510W. Production Management (3)
Emphasis on organization of production function and its relationship to other management functional activities. Accelerated workshop course for MBA students.
Staff: Su; D: 1975

511. Production Planning and Control (4)
Quantitative techniques used in premanufacturing and control phases of production function.
Staff: F, D: 1973-74

512. Production Management Problems (4)
Case studies of production problems in various industries.
Staff: D: 1973-74

531. Administration of Information Systems (4)
Information networks and flows in organizations within total systems framework.
Staff: D: 1973-74

545. Small Business Administration (4)
Place of small business organizations in our society, need for organizations in certain segments of business society; problems faced, opportunities involved and competitive considerations.
Greco: F, Sp; Y: 1974-75

555. Studies in Business History (4)
Case studies of American businessmen and firms since early colonial period, with emphasis on 20th century. Lessons from past examined in relation to present sound business policy.
Walten: D: 1974-75

560. Future of Information Management (4)
Planning and implementing change in information systems 10-yr look ahead for administrators. Information management changes required for decision making in both profit-centered and service-centered organizations.
Staff: D: 1972-73

565. Technology and the Environment (4)
Prereq: perm. There is everywhere a great concern for things to come. Real problem is not just to predict the future but how to anticipate, control and change it. Course is conceptual, future-oriented and interdisciplinary. Variety of developmental problems and interaction of many technological environments including social, political, economic, marketing, as well as technical.
Staff: W, J, 1974-75

580. Ethics and Morality in Business (4)
Combined moral philosophy and personal responsibilities in actual business and administrative case decisions demanding critical analysis of contextual situation where providential resolutions must be indirectly charted between ethical thoughts and economic musts.
Staff: W, Sp, D: 1974-75

585. International Business (4)
Emergence of U.S. and non-U.S. multi-national corporations, scope of their operations and their impact on U.S. economy and consumer.
Staff: D: 1974-75

670. Business Policy (4)
Top management view of decision making affecting future operations of a business, and opportunities, risks and responsibilities accompanying formulation of company policy and strategy.
Sp; Y: 1974-75

671. Production Theory and Systems (4)
Quantitative models and readings in networks, programming, forecasting, inventory policy, production control and individual dynamics.
Staff: D: 1972-73

672. Advanced Production Problems (4)
Case studies in industries designed to apply all phases of student's training and experience.
Staff: D

680. Master's Seminar (1-4, max counted toward graduation—4)
Prereq: MBA student. Seminar concentrating on integration of concepts from required MBA courses and application of these concepts in operating organizations.
Staff: F, W, Sp; Y: 1974-75

690. Research (3, 4 or 5)
Methodology, analysis of data and preparation of research findings.
Staff: D

691. Seminar (3, 4 or 5)
Selected topics of current interest.
Staff: D

693. Readings (1-15)
Readings on topics selected by student in consultation with a faculty member.
Staff: F, W, Sp, Su; Y: 1974-75

695. Thesis (1-15)
Staff: F, W, Sp, Su; Y: 1974-75

697. Independent Research (1-15)
Research in selected fields of business administration under direction of faculty member.
Staff: F, W, Sp, Su; Y: 1974-75

698. Internship (1-15)
Staff: F, W, Sp; Y: 1974-75

BUSINESS LAW

500. Law and Society (4)
Conceptual approach to origin, nature, structure, functions and procedures of law with study of contractual relationships.
Staff: F, W, Sp, Su; Y: 1975-76

500W. Law and Society (3)
Conceptual approach to origin, nature, structure, functions and procedures of law with study of contractual relationships. Accelerated workshop course for MBA students.
Staff: Su; D: 1975-76

542. Law of Property and Real Estate (4)
Property law as an institution and analysis of creation, transfer and relation of various legal interests in property, especially land.
Staff: Sp; D: 1971-72

562. Law of Estates and Trusts (4)
Law as it pertains to decedents' estates including law of wills, intestate succession and trusts.
Staff: Sp; D: 1969-70

570. Environmental Law (4)
Legal aspects of individual and societal environmental rights and duties with respect to U.S. Constitution, private property, nuisance, negligence, statutes, regulatory agencies and court decisions.
Staff: Sp, D: 1975-76

575. Government and Business (4)
Governmental regulatory environment of business including analysis of statutes, court decisions and rulings affecting policy decisions.
Marinelli, Sp; D: 1975-76

690. Research (3, 4 or 5)
Methodology, analysis of data and preparation of research findings.
Staff: F, W, Sp, Su, Y: 1975-76

691. Seminar (3, 4 or 5)
Selected topics of current interest.
Staff: F, W, Sp, Su; Y: 1975-76

693. Readings (1-15)
Readings on topics selected by student in consultation with a faculty member.
Staff: F, W, Sp, Su, Y: 1975-76

695. Thesis (1-15)
Staff: F, W, Sp, Su; Y: 1975-76

697. Independent Research (1-15)
Research in selected fields under direction of a faculty member.
Staff: F, W, Sp, Su, Y: 1975-76

698. Internship (1-15)
Staff: F, W, Sp, Su; Y: 1975-76

CHEMICAL ENGINEERING (See Engineering, Chemical)

CHEMISTRY

To begin graduate work in chemistry the student should have completed a year's work in analytical chemistry, organic chemistry, physical chemistry, calculus and physics.

Students pursuing either the MS or PhD degree may major in analytical, inorganic, organic, physical chemistry or biochemistry. Both degree programs require research and teaching experience as well as the presentation of a scholarly written work. PhD students must also demonstrate proficiency in a specified foreign language.

During a student's first year a core of five courses (four for MS) is required; however, many students find that they are able to satisfy all or part of this requirement by passing examinations which are offered every September. Specific coursework required in the major area is recommended on an individual basis by the student's advisory committee. In order to develop communication skills, a student is required to present seminars and provide an oral defense of his or her dissertation or thesis.

500. Qualitative Organic Analysis (5)
Prereq: perm. Separation and identification of organic compounds. 3 lec, 6 lab.

501. Organic Chemistry Survey (4)

520. Chemical Literature (3)
Prereq: reading knowledge of German. Chemical literature in journals, handbooks, monographs and patents. Scientific writing.

530. Introduction to Toxicology (4)
Prereq: Chem 302 or 307. Introduction to chemical, clinical, environmental, and forensic aspects of toxicology; types of poisons, how poisons act, treatment of acute poisoning, and control of poisonous materials.

545. Chemistry of Photography (4)
Prereq: grad rank in photography. Basic chemistry of modern and historical photographic and photo-mechanical materials and processes. 2 lec, 4 lab.

550. Principles of Quantum Chemistry (3)
Prereq: perm. Introduction to solution of problems concerning molecular structure and spectroscopy in terms of quantum theory.

551. Physical Chemistry (4)
Prereq: perm. For graduate students not majoring in chemistry. Includes thermodynamics, thermochemistry, equilibrium, solutions, electrochemistry and kinetics.

553. Physical Chemistry (3)
Calculus-based introduction to behavior of gases, liquids and solids including kinetic theory of gases and crystallography of solids. Not open to undergraduate chemistry majors.

554 Physical Chemistry (3)

Prereq: 553. Continuation of 553. Laws of chemical thermodynamics and their application to chemical systems at and approaching equilibrium. (Not open to undergraduate chemistry majors.)

555 Physical Chemistry (3)

Prereq: 554. Continuation of 554. Study of multi-component phase equilibria, solution thermodynamics, electrochemistry and reaction rates and mechanisms. (Not open to undergraduate chemistry majors.)

558 Chemical Thermodynamics (3)

Prereq: perm. Concepts of energy and entropy and their use in predicting the feasibility and extent of chemical reactions.

560 Spectroscopic Methods in Organic Chemistry (3)

Prereq: perm. Modern spectroscopic methods as employed in organic chemical research: NMR, IR, UV, ESR and mass spectrometry.

571 The Physical Chemistry of Macromolecules (3)

Prereq: 454 or perm. Effects of structure and molecular weight on physical and chemical properties of macromolecules. Topics include molecular weight distribution, solubility, polymer conformation, different types of polymers, synthesis and reactions. Both synthetic and natural polymers considered.

576 Modern Inorganic Chemistry (4)

Relationship between physical and chemical properties of inorganic substances and nature of bonding and structures involved.

577 Synthetic Methods of Inorganic Chemistry (2-3)

Prereq: 576. Theoretical principles and practices of synthesis, purification and characterization of inorganic substances. 1 lec, 3-6 lab.

579 Radiochemistry (4)

Prereq: perm. Application of radiation and radioactive isotopes to problems in chemistry and environmental sciences; detection and determination of radiation; safe handling and disposal of radioactive materials and other problems in environmental radiation safety.

580 Advanced Organic Chemistry (4)

Structural theory, stereochemistry, reactive intermediates, and reaction mechanisms.

583 Chemical Separation Methods (4)

Modern methods of separating components of complex mixtures with emphasis on their operation and application in analytical chemistry. Topics will include liquid-liquid extraction, partition chromatography, ion-exchange, gas-chromatography, high-pressure liquid chromatography, exclusion chromatography and electrophoresis. 3 lec, 3 lab.

584 Electrochemical Methods of Analysis (5)

Prereq: 551 or 553. Modern electrochemical techniques and instrumentation with emphasis on their applications in analytical chemistry. Topics include introduction to electronic circuits and operational amplifiers, potentiometry, specific ion electrodes, DC and AC polarography, pulse polarography, coulometry, chronocoulometry, cyclic voltammetry and rapid scan voltammetry.

585 Spectrochemical Methods of Analysis (5)

Prereq: 551 or 553. Survey of spectrochemical instrumentation with emphasis on their operation and application in analytical chemistry. Topics include atomic absorption, atomic emission, molecular absorption and molecular emission and will cover emission-absorption phenomena in X-ray, ultraviolet, visible and infrared regions of electromagnetic spectrum.

586 Advanced Analytical Chemistry (4)

Fundamental principles of analytical chemistry. Rigorous treatment of equilibrium in aqueous and nonaqueous systems, precipitate formation, electrochemistry, stoichiometry and volumetric methods of analysis.

587 Forensic Chemistry (4)

Prereq: 484 and 485. Survey of chemical problems most frequently encountered in a crime laboratory and their currently acceptable solutions, as well as special techniques not covered in other analytical chemistry courses. 3 lec, 3 lab.

588 Chemical Instrumentation (4)

Prereq: perm. Fundamentals of electronics, emphasizing circuitry in modern chemical instruments. 3 lec, 3 lab.

590 Introduction to Biochemistry (3)

Prereq: perm. Structure and function of major biological macromolecules.

591 Introduction to Biochemistry (3)

Prereq: 590. Bioenergetics, metabolism and metabolic control systems.

592 Introduction to Biochemistry (3)

Prereq: 591. Study of integrated molecular systems in biology.

695 Research and Thesis (as recommended by dept)**700 Research Techniques (3)**

Prereq: perm. Important skills and techniques of chemical research including glassblowing, vacuum techniques, separation methods, etc.

701 Advanced Organic Chemistry (3)

Prereq: 580. Organic syntheses.

702 Advanced Organic Chemistry (3)

Prereq: 701. Theoretical aspects of organic chemistry.

703 Physical Organic Chemistry (3)

Prereq: 702. Application of modern concepts to structure and reactivity in organic reactions of various mechanistic classes.

704 Heterocyclic Chemistry (3)

Prereq: 702. Theoretical and synthetic aspects.

705 Organometallic Chemistry (3)

Prereq: 576. Structure and reactivity of organometallic compounds.

706 Natural Products Chemistry (3)

Prereq: 702. Terpenes, steroids, alkaloids and other natural products.

710 Special Topics in Organic Chemistry (3)

Prereq: 702. Selected topics of current interest.

711 Protein Chemistry (3)

Topics and techniques relevant to thorough understanding of current status of protein chemistry and enzymology. Includes isolation, purification and characterization of proteins by standard techniques, active center characterization and physicochemical features of proteins.

712 Biophysical Chemistry (3)

Presentation of physical aspects of polymer chemistry relevant to biochemistry and exploration of techniques and concepts attendant to these methods.

713 Bioenergetics (3)

Principal theories of oxidative phosphorylation, function and components of electron transport system, oxidases, dehydrogenases and ATP-ase systems inherent in bioenergetics, mitochondrial components and functions.

714 Structure and Function of Genetic Systems (3)

Current concepts of chromosomal structure, genetic control and genetic mapping techniques including physicochemical interactions of DNA, histones and non-histone proteins, prokaryote and eucaryote regulation and genetic mapping in both pro- and eucaryotic systems.

726 Electroanalytical Chemistry (4)

Prereq: 584. Fundamentals and applications of potentiometry, conductometric titrations, coulometry, voltammetry, amperometric titrations, cyclic voltammetry, chromocoulometry. 3 lec, 3 lab.

727 Spectrochemical Analysis (4)

Prereq: 585. Modern instrumental methods of molecular spectroscopy including Raman, Fourier transform IR and NMR, circular dichroism and mass spectroscopy; recent methods of atomic spectroscopy including plasma sources, diode arrays and television spectrometers; impact of computerization.

730 Special Topics in Analytical Chemistry (3-5)

Selected topics of current interest: electronics, optical rotatory dispersion, circular dichroism, Fourier transform spectroscopy, photoelectron spectroscopy, chemical ionization mass spectrometry.

750 Chemical Thermodynamics (3)

Application of thermodynamics to mixtures and solutions to take account of solvent-solute interaction and ionic effects.

751 Statistical Thermodynamics (3)

Prereq: 558 or perm. Derivation of thermodynamic principles and data from knowledge of size and shape of molecules and laws of mechanics.

753 Chemical Applications of Group Theory (4)

Develops foundations for application of elementary group theory to organize or simplify problems in quantum chemistry. Applications include molecular orbitals, molecular vibrations and ligand field environments.

754 Chemical Quantum Mechanics (3)

Prereq: 550. Perturbation and variation theory with application to quantum chemistry; angular momentum; electron spin; atomic structure. Some matrix theory.

755 Special Topics in Quantum Chemistry (3)

Prereq: 550. Compares various current approaches to molecular orbital calculations in quantum chemistry. Course varies in alternate years; ligand field theory or Hartree-Fock-Roothan molecular orbital theory (either *ab initio* or semiempirical).

756 Solutions (3)

Selected topics in solution thermodynamics such as stoichiometry, determination of equilibrium constants, activity coefficients and other thermodynamic properties of solutions; theories of electrolytes; electrochemistry, and transport phenomena.

757 Chemical Kinetics (3)

Experimental methods of obtaining reaction rates, interpretation of rate data and relationships between mechanism of reactions and rate equations of reactions.

758 Crystallography (3-4)

Point and space groups; X-ray spectra; diffraction phenomena; reciprocal lattice; powder, precession, Weissenberg and counter methods of recording spectra; crystal structure determination.

759 Solid State Chemistry (4)

Prereq: 550. Geometrical crystallography and structure of crystals; imperfections and mechanical properties; crystal growth; phase diagrams; electrical, optical, thermal and magnetic properties of solids; diffusion and solid state reactions.

760 Magnetochemistry (3)

Examination, analysis and formulation of selected magnetic phenomena, including magnetic susceptibility, magnetic materials, magnetic resonance and magnetothermodynamics.

761 Molecular Structure I (3)

Prereq: 550. Theoretical principles of rotational, vibrational and electronic spectra of diatomic and polyatomic molecules.

762 Molecular Structure II (3)

Prereq: 550. Theoretical principles of nuclear magnetic resonance and electron spin resonance spectroscopy.

763 Radiation and Photochemistry (3)

Comparison of radiation and photochemical reactions; primary and secondary processes; general treatment of free radical mechanisms; isolation and detection of free radicals; radiation dosimetry; chemical and biological effects of radiation.

764 Special Topics in Physical Chemistry (2-3)**775 Theoretical Inorganic Chemistry (3)**

Prereq: 550, 576. Theoretical principles underlying physical and chemical behavior of inorganic substances.

776 Chemistry of the Representative Elements (3)

Prereq: 576. Descriptive chemistry of A-group elements.

777 Chemistry of Transition Elements (3)

Prereq: 775. Descriptive chemistry of transition elements and their coordination compounds.

778 Chemistry of Heavy Elements (3)

Prereq: 775. Descriptive chemistry of lanthanides, actinides and selected heavy metals.

779 Physical Methods of Inorganic Chemistry (3)

Prereq: 775. Modern methods of study of structure and properties of inorganic substances.

790 Special Topics in Inorganic Chemistry (3)

Topics of special interest to inorganic chemistry majors. (a) Inorganic mechanisms; (b) Electron deficient compounds; (c) Ligand field theory; (d) Advanced synthetic methods. 6 lab.

891 Inorganic Chemistry Seminar (1)

Required of inorganic chemistry majors.

892 Organic Chemistry Seminar (1)
Selected topics from current literature presented by participating students and staff.

893 Analytical Chemistry Seminar (1)
Required of analytical chemistry majors

894 Physical Chemistry Seminar (1)
Required of physical chemistry majors

895 Doctoral Research and Dissertation
(as recommended by dept.)

CHILD DEVELOPMENT

(See Home Economics)

CHINESE

(See Foreign Languages and Literatures)

CIVIL ENGINEERING

(See Engineering, Civil)

CLASSICAL LANGUAGES

(See Foreign Languages and Literatures)

COMMUNICATION

(See Hearing and Speech Sciences,
Journalism, Interpersonal Communication,
Mass Communication or Radio-Television)

COMPARATIVE ARTS

DOCTORAL PROGRAM

The PhD program in comparative arts is an academic program of liberal, humanistic study in the arts of western civilization. Fundamental emphasis is placed on the ability to deal with works of art in their own terms; that is, the competence to analyze a work in any basic medium utilizing the procedures of accepted modes of analysis within the scholarly tradition of each artistic discipline. But, as our name implies, departmental work is further focused upon the exploration of relationships between works of art and their significant cultural and intellectual contexts. There is no intention in this program to present the student with a choice between scholarship and creative expression. Instead, the program is based on the belief that, for the creative individual, knowledge and understanding of his or her heritage and the development of acute critical abilities can only enhance the creative spirit, not hinder it.

Degree work is thus structured around an historical-theoretical-critical bias involving period studies in each of the basic artistic disciplines as well as interdisciplinary seminars.

Admission Requirements

A candidate for admission to the program should have completed a master's degree from a reputable, accredited university. This program of study may be in the historical and critical studies of any one of the major art disciplines or may be in studio or performance fields. Students whose master's degree training is in modern languages, literature, history, or philosophy and who have interest in and some training in arts fields are also encouraged to apply.

Applications for admission should include:

1. Official transcripts of all previous degree work.
2. At least three letters of recommendation from persons qualified to speak of the academic achievement and potential of the applicant.
3. A three- to five-page essay in which the applicant discusses reasons for selection of interdisciplinary work for a graduate de-

gree and a statement of philosophical and practical expectations from such study.

4. Graduate Record Examination scores for the Quantitative and Qualitative Aptitude tests, or the Miller Analogies Test.

When at all feasible, the department further recommends a personal interview with each applicant.

Most admissions to the comparative arts program are for fall entry, the beginning of the academic year. For such consideration an applicant is advised to submit all application material by the beginning of the previous March, as basic admissions decisions for the ensuing year are generally made by the middle of the previous April. Applications for admission at other times of the year should be complete and in the hands of the departmental graduate committee not less than three months prior to the beginning of the quarter for which admission is requested.

Program Requirements

The basic curriculum for the degree consists of the following:

1. *Historical-Theoretical studies*: From the four arts of theater, music, painting and sculpture and architecture two will be selected as areas of concentration requiring a minimum of six courses in each. In the two areas not selected as areas of concentration, a minimum of one course is required.
2. *Seminar*: A full cycle of the Seminar in Comparative Arts, consisting of all six courses, is required.
3. *Academic Minor*: A minimum of three courses in the social sciences or humanities is required (areas such as history, literature, philosophy, psychology, etc.). (Students whose prior graduate training has included work in one of these areas may petition to transfer sufficient credits to waive this requirement.)
4. *Studio Minor*: A minimum of three studio or performance courses is required. (Students whose prior graduate training included studio or performance work may petition to transfer sufficient credits to waive this requirement.)

A student is also required, as a part of the total program, to demonstrate proficiency in at least two scholarly tools outside of, but related to, his or her areas of concentration as determined by the graduate committee of the department. The choice is to be made from the following:

1. A reading knowledge of two foreign languages.
2. A reading knowledge of one foreign language plus at least three graduate courses in the literature of that language.
3. A reading knowledge of one foreign language plus satisfactory competence in a related tool (music theoretical systems, statistics, etc.). The music theoretical systems option is not open to students with graduate training in a music area.

Upon petition, the department will accept test scores from the Educational Testing Service which demonstrate reading proficiency in a foreign language provided the test score is at least 500 and no more than three years old.

Minimum course requirements for the degree may ordinarily be completed in six to eight quarters of full-time residency, of which a minimum of three quarters must be continuous. Toward the end of the student's sixth full quarter of study, or when the coursework is virtually completed, and upon recommendation of the graduate committee of the department, the student must take a comprehensive examination. In this examination the

student must demonstrate the ability to make historical, philosophical and comparative analyses of works of art.

A dissertation (and oral defense) is the culminating demonstration of a candidate's scholarly abilities.

520X Problems in Comparative Arts (The Fine Arts in Florence) (1-6)

Prereq: enrollment in Ohio University in Italy program. Artistic expression in Florentine life as it may be seen in examples of architecture, painting, sculpture and music.

Staff, Sp, Y, 1976.

581 Independent Study (1-6)

Prereq: perm.

Staff, F, W, Sp, Su, Y, 1976.

581X Independent Study (1-6)

Prereq: perm, study abroad.

Staff, Sp, Y, 1976.

701 Music Theory Systems (4)

For nonmusician graduate students introducing musical theoretical systems c. 300 B.C. to present.

Wortman, F, Y, 1975.

702 Music Theory Systems (4)

Prereq: 701. For nonmusician graduate students introducing musical theoretical systems c. 300 B.C. to present.

Wortman, W, Y, 1976.

703 Music Theory Systems (4)

Prereq: 702. For nonmusician graduate students introducing musical theoretical systems c. 300 B.C. to present.

Wortman, Sp, Y, 1976.

711 Music in Antiquity and the Middle Ages (4)

Cultural history of music to c. 1410.

Wortman, F, A, 1975.

712 Music in the Renaissance (4)

Cultural history of music c. 1410-c. 1600.

Wortman, W, A, 1976.

713 Music in the Baroque Period (4)

Cultural history of music c. 1600-c. 1730.

Wortman, Sp, A, 1976.

714 Music in the Classic Period (4)

Cultural history of music c. 1730-c. 1825.

Wortman, F, A, 1974.

715 Music in the 19th Century (4)

Cultural history of music in the 19th century.

Wortman, W, A, 1975.

716 Music in the 20th Century (4)

Cultural history of music in the 20th century.

Wortman, Sp, A, 1976.

720 Greek Art (4)

Development between Minoan-Helladic cultures and those of Alexandrian Empire.

Staff, Y, 1976.

721 Roman Art (4)

Motifs and art concepts ranging from Etruscan works to advent of Constantine.

Staff, W, Y, 1975.

722 Medieval Art (4)

Painting and sculpture from Constantine to Giotto.

Harper, W, Y, 1975.

723 Italian Renaissance Art (4)

Monuments, motifs and their implications in Quattrocento Italy.

Katz, F, A, 1975.

723X Italian Renaissance Art (4)

Prereq: study abroad. See CA 723.

Staff, Sp, Y, 1976.

724 Northern Renaissance Art (4)

Arts of northern Europe to 1530.

Herz, Sp, Y, 1976.

725 Art of High Renaissance and Mannerism (4)

Art and history of the Cinquecento.

Katz, W, A, 1974.

726 Baroque and Rococo Art (4)

Painting and sculpture of 17th and 18th centuries.

Herz, F, A, 1975.

727 Art of 19th Century (4)
Developments during and after the Industrial Revolution.
Katz; F; A; 1976.

728 Modern Art (4)
Specific movements and artists since 1900.
Staff; W; D; 1976.

729 Arts of the United States (4)
Specific problems and patterns from the Colonial era.
Katz; Su; A; 1974.

730 Arts of the Orient (4)
Selected studies in the arts of India, China and Japan.
Staff; F; A; 1975.

731 Pre-Columbian Art (4)
Arts of early Mexico, Middle America and South America.
Perani; W; A; 1975.

732 African Art (4)
Arts of Niger and Congo basins.
Perani; W; A; 1976.

733 Ancient Near Eastern Art (4)
Motifs and monuments of Egypt, Mesopotamia, Assyria and Babylonia.
Staff; Sp; A; 1975.

734 Seminar in Film I (4)
(fall). (For course description, see listing under Film 633).
Staff; F; Y.

735 Seminar in Film II (4)
(winter). Continuation of 734. See 734 for description.
Staff; W; Y.

736 Seminar in Film III (4)
(spring). Continuation of 734 and 735.
Staff; Sp; Y.

737 History of Photography (4)
Photography as art, science and industry. Leading photographers and their contributions. 3 lec.
Gassan; F; Y; 1975.

738 History of Photography (4)
Continuation of 737. See 737 for description.
Gassan; W; Y; 1976.

739 Art and Ideas in Painting (4)
Prereq: perm. Ideas and concepts concerning the creative act and the artist/work-of-art relationship.
Katz; W; A; 1975.

750 Architectural Theory and Practice (4)
Prereq: Graduate rank and perm of instructor. Selected topics in architectural theory and criticism.
Harper; Sp; D.

751 Architecture of Greece and Rome (4)
Shaping of architecture of classical world by social, religious, climatic and technical influences, from Mycenaean to Early Christian periods.
Harper; F; A; 1976.

752 Medieval Architecture (4)
Selected topics in medieval architecture.
Harper; W; A.

753 Renaissance Architecture (4)
Selected topics in renaissance architecture.
Harper; Sp; A.

754 17th and 18th Century Architecture (4)
Selected topics in 17th and 18th century architecture.
Harper; F; A.

755 19th and 20th Century Architecture (4)
Selected topics in 19th and 20th century architecture.
Harper; W; A.

756 American Architecture (4)
Selected topics in American architecture.
Harper; Sp; D.

760 Seminar in Art Historiography (4)
Advanced course investigating theory and practice of art historical discipline.
Katz; W; Sp; A; 1976.

770 Greek Theater and Drama (4)
First in series of 8 seminars covering in-depth theater and drama of western world from pre-historic times to contemporary.
Conover; F; Y; 1975.

771 Roman and Medieval Theater (4)
3 lec.
Conover; W; Y; 1976.

772 Renaissance Theater and Drama (4)
Conover; Sp; Y; 1976.

773 Restoration and 18th Century Theater (4)
Quinn; D; 1973.

774 Baroque European Theater (4)
3 lec.
Quinn; Sp; Y; 1976.

775 19th Century European Theater (4)
3 lec.
Staff; 1975.

776 Contemporary Theater (4)
Staff; 1976.

777 American Theater and Drama (4)
Kaufman; Sp; A; 1976.

778 Seminar in Dance History and Criticism (4)
Contemporary directions in dance, the function of dance as art, ritual and social activity; its development as spectacle and entertainment. Research projects.
Wimmer; F; Y; 1975.

779 Seminar in Dance History and Criticism (4)
Selected dance cultures of the world. Function of dance in society and its relation to other arts. Research projects.
Wimmer; W; Y; 1975.

780 Seminar in Dance History and Criticism (4)
Continuation of 779.
Wimmer; Sp; Y; 1976.

881 Individual Problems (4-15)
Staff; F, W, Sp, Su; Y; 1976.

881X Individual Problems (4-15)
Prereq: study abroad.
Staff; 1976.

891 Seminar in Comparative Arts (3)
Staff; F, W, Sp, Su; Y; 1976.

895 Dissertation (as recommended by dept)
Staff; F, W, Sp, Su; Y; 1976.

COMPUTER SCIENCE

The department of computer science does not offer an advanced degree program. However, a student who wishes to study computer science at the graduate level may apply credit for the courses listed below (except 552, 553 and 554) in a master's degree in mathematics. (See Mathematics)

Courses 552, 553 and 554 are offered to provide programming instruction for graduate students who wish to use the computer as a research tool in various disciplines.

505A Modeling and Analysis of Computer Systems (5)

Prereq: 341A, 381, Math 350A. Computer systems are characterized by hardware, software and operating environment so that such systems can be evaluated. Models of a portion or a function of batch, time-sharing or real-time computer systems developed and analyzed. Simulation, queuing, scheduling methods and probability and statistics used as tools.
Wei; Sp; Y; 1975.

508 Introduction to Discrete Structures (5)
Prereq: perm. Review of set algebra including mappings and relations. Algebraic structures including semigroups and groups. Elements of theory of directed and undirected graphs. Boolean algebra and propositional logic. Applications of these structures to various areas of computer science.
Irwin; Sp, W; Y; 1975.

541A Programming Languages (5)
Prereq: 508. Formal definition of programming languages including specification of syntax and semantics. Simple statements including precedence, infix, prefix and postfix notation. Global properties of algorithmic languages including scope of declarations, storage allocation, grouping of state-

ments, binding time of constituents, subroutines, coroutines and tasks. List processing, string manipulation, data description and simulation languages. Run-time representation of program and data structures.
Irwin; F, Sp; Y; 1975.

541B Compiler Construction (5)
Prereq: 541A. Review of program language structures, translation, loading, execution and storage allocation. Compilation of simple expressions and statements. Organization of compiler including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques and overall design. Use of computer writing languages and bootstrapping.
Irwin; F, W; Y; 1974.

541C Systems Programming (5)
Prereq: 541A and 576. Review of batch process systems programs, their components, operating characteristics user services and their limitations. Implementation techniques for parallel processing of input-output and interrupt handling. Overall structure of multiprogramming systems on multiprocessor hardware configurations. Details on addressing techniques, core management, file systems design and management, systems accounting and other user-related services. Traffic control inter-process communication, design of system modules and interfaces. System updating, documentation and operation.
Irwin; W, Sp; Y; 1975.

552 Introduction to Digital Computer Programming for Business (5)
Computer solution of problems in business. Problems in accounting, quantitative methods, management. Artificial language COBOL used.
Staff; W, Sp; Y; 1975.

553 Introduction to Digital Computer Programming for Engineering and Physical Science (5)
Computer solution of problems involving extensive numerical calculations as found in physical sciences, engineering and numerical mathematics. Artificial language FORTRAN used.
Staff; F, W, Su; Y; 1975.

554 Introduction to Digital Computer Programming for Behavioral, Educational and Biological Sciences (5)
Problem organization for computer solution using scientifically oriented algorithmic languages such as FORTRAN and PL/I. Logical problem analysis, artificial language syntax and semantics, problem flow, testing and debugging, input/output, artificial intelligence and use of auxiliary storage.
Staff; F, W, Sp, Su; Y; 1975.

576 Data Structures (5)
Prereq: 508. Basic concepts of data. Linear lists, strings, arrays and orthogonal lists. Representation of trees and graphs. Storage systems and structures and storage allocation and collection. Multi-linked structures. Symbol tables and searching techniques. Formal specification of data structures, data structures in programming languages and generalized data management systems.
Wei; F; Y; 1974.

581 Information Organization and Retrieval (5)
Prereq: 576. Structure of semiformal languages and models for representation of structured information. Aspects of natural language processing on digital computers. Analysis of information content by statistical, syntactic and logical methods. Search and matching techniques. Automatic retrieval systems, question-answering systems. Production of secondary outputs. Evaluation of retrieval effectiveness.
Wei; W; Y; 1975.

601 Mathematical Models of Sequential Machines (5)

Prereq: 508. Definition and representation of finite state automata and sequential machines. Equivalence of states and machines, congruence, reduced machines and analysis and synthesis of machines. Decision problems of finite automata, partitions with substitution property, generalized and incomplete machines, semigroups and machines, probabilistic automata and other topics.
Farrar; Sp; A; 1974.

602 Theory of Computability (5)

Prereq: 600. Introduction to Turing machines, Wang machines, Shepherdson-Storke and other machines. Gödel numbering, and undecidability results, halting problems, Post's correspondence problem and relative uncomputability. Machines with restricted memory as e.g., limited memory and limited computing time. Recursive function theory and complexity classification. Models of computation including relationships to algorithms and programming.

Farrar, F. W., Jr., 1973.

610 Formal Languages and Syntactic Analysis (5)

Prereq: 611A and 616. Definition of formal grammars, arithmetic expressions and procedure grammars, context-free and finite state grammars. Algorithms for syntactic analysis: recognizer, backtracking operator precedence techniques. Semantics of grammatical constructs: deductive grammar. Typed productions, simple syntactical compilation. Relationship between formal languages and automata.

Farrar, F. W., Jr., 1973.

611 Artificial Intelligence and Heuristic Programming (5)

Prereq: 676. Definition of heuristic versus algorithmic methods, rationale of heuristic approach, description of cognitive processes and approaches to mathematical invention. Objectives of work in artificial intelligence, simulation of cognitive behavior and self-organizing systems. Heuristic programming techniques including use of list processing languages. Survey of examples from representative application areas. Mind-brain problem and nature of intelligence. Class and individual projects to illustrate basic concepts.

Farrar, F. W., Jr., 1974.

648 Mathematical Linguistics (5)

Prereq: perm. Offered when demand is sufficient. Mathematical properties and structures of data sets. Theoretical machines as models for grammars.

Tracy, D., 1970.

COUNSELING

(See Education—Guidance, Counseling and Student Personnel)

DANCE

(See Comparative Arts)

ECONOMIC EDUCATION

The MA in economic education at Ohio University is administered by the faculty of the Department of Economic Education, College of Business Administration. Additionally, Ohio University offers a PhD that is administered by the faculty of the School of Curriculum and Instruction, College of Education, in cooperation with the Department of Economic Education. For information about the PhD program, see listings in education in this catalog.

The MA is designed specifically for in-service and pre-service teachers who have baccalaureate degrees and who meet the normal admission standards for the Graduate College and minimum departmental standards. A program of 48 quarter hours in economic education, economics, and educational theory and research is required. Degree candidates are expected to take a minimum of 16 quarter hours in economic education, 16 quarter hours in economics, and eight quarter hours in education. The total program must be planned with and approved by the graduate advisor.

546 Economics in the Curriculum (3-5)

For teacher-education students designed to provide study of: 1. fundamental economic concepts, 2. methods of inquiry employed by economist and 3. relationship of economics content to classroom instruction and instructional materials.

Staff.

547 Economic Analysis and its Application to the Curriculum (2-5)

For elementary and secondary teachers, designed to emphasize methods of inquiry employed by economists and their application to theories of instruction.

Staff.

548 Economic Policy and its Application to the Curriculum (2-5)

For elementary and secondary teachers, designed to provide application of an economic analysis to economic policy and courses of study.

Staff.

649 Economic Education Programs (3-5)

Prereq: perm. Economic education in the schools, administrative and organizational structures, current curriculum development projects, eventual economic understandings that should be taught and their place in the curriculum, ways to improve economic education and economic education organizations.

Staff.

651 Master's Seminar (2-5)

Prereq: perm. Writing of scholarly papers in areas of economic education. Required of all nonthesis master's candidates.

Staff.

691 Economic Education Seminar (2-5)

Prereq: perm. Selected topics of current interest.

Staff.

692 Economic Education Research (3-5)

Prereq: perm. Methodology, analysis of data and preparation of research findings.

Staff.

693 Readings in Economic Education (1-15)

Prereq: perm. Readings on topics selected by student in consultation with a faculty member.

695 Thesis (1-15)

Prereq: perm. (as recommended by dept.)

Staff.

697 Independent Research in Economic Education (1-15)

Prereq: perm. Research in selected fields of economic education under direction of a faculty member.

Staff.

698 Internship (as recommended by dept) (1-15)

Prereq: perm.

Staff.

791 Economic Education Seminar (3-5)

Prereq: perm. Selected topics of current interest.

Staff.

792 Economic Education Research (3-5)

Prereq: perm. Methodology, analysis of data and preparation of research findings.

Staff.

ECONOMICS

A student beginning graduate work in the field of economics should ordinarily have undergraduate training which includes courses in the social sciences or business administration. It is recognized, however, that a wide variety of areas of concentration relate to or provide appropriate background knowledge for advanced study in economics.

Undergraduate courses in principles of economics, statistics, intermediate micro and macro theory, and some quantitative orientation will ordinarily be deemed prerequisites for graduate work in this area. In every case the student's undergraduate program must be approved by the departmental admissions committee prior to the beginning of graduate work.

All students seeking the master of arts degree are required to take History 411 (Economic Thought). Advanced Macroeconomic Theory, Advanced Microeconomic Theory and The Methodology of Economics, and to specialize in two areas of econ-

omics, two courses for each area. Other courses are elective.

The student may choose one of three options: 1. 41 quarter hours plus thesis, or 2. 45 quarter hours plus master's seminar, or 3. 48 quarter hours plus comprehensive examinations in two fields of concentration.

500 Mathematical Economics Foundations (4-5)

Introduction to differential calculus, integral calculus and linear algebra with economic and business models and applications.

Shukla or Koshal; F; Y, 1975.

501 Statistical Foundations (4-5)

Introduction to probability theory, statistical distributions, sampling, estimation, testing and decision theory for economists and business administration.

Shukla or Koshal; F; Y, 1975.

503 Fundamentals of Economics (4)

Analysis of prices, markets, production, wages, interest, rent and profits.

Staff; F, W, Sp; Y, 1976.

503W Fundamentals of Economics (3)

Analysis of prices, markets, production, wages, interest, rent and profits. Accelerated workshop course for MBA students.

Staff; Su; D, 1975.

504 Fundamentals of Economics (4)

Continuation of 503. See 503 for description.

Staff; F, W, Sp; Y, 1976.

504W Fundamentals of Economics (3)

Continuation of 504W. Analysis of prices, markets, production, wages, interest, rent and profits. Accelerated workshop course for MBA students.

Staff; Su; D, 1975.

506 Stabilization Policy (4)

Use of economic theory to formulate monetary and fiscal policies for minimizing cyclical fluctuations in economic activity.

Klingaman; W; D, 1976.

508 Modern Economic Thought (4)

Contributions to economics of most significant writers since Alfred Marshall.

Picard; W; Y, 1976.

509 Institutional Economics (4)

Veblen, Commons, Ayres and other modern dissenters from traditional economic thought. Technological progress and institutional adjustment, influence on contemporary theory and policy.

Creason; Sp; Y, 1974.

510 Urban Economics (4 or 5)

Application of economic analysis to urban problems: urban economic growth and structure (location patterns, land use and environment, urban transportation and housing), human resources in urban economies and public sector in a metropolitan context.

Peterson; F; Y, 1975.

511 Inequality of Personal Wealth and Income (4)

Prereq: any course in statistics. Quantitative and qualitative differences in wealth and income between low, middle and high income groups in society using historical, statistical and mathematical techniques.

Soltow; W; D, 1976.

512 Economics of Poverty (4)

Causes, causes and consequences of poverty in affluent society. Economic history, statistics applied to analysis of poverty-reduction measures.

Callaway; W; Y, 1975.

513 Economics of the Environment (4)

Prereq: grad rank, perm. Economic analysis of such environmental matters as air, water and noise pollution, population growth and land use. Emphasis placed on use of economic theory and empirical research in evaluating environmental policies.

Koshal; W; Y, 1976.

515 Regional Analysis (4-5)

Theories of regional and interregional relationships and policies for regional development. Consideration of economic, geographic, demographic, political and social factors.

Staff; D, 1976.

520 Labor Economics (4)

Economic forces generating modern labor problems: history of labor movement, labor in politics, labor-management relations, wages, full employment.

Levinson; F; Y; 1975.

521 Labor Legislation (4)

Law bearing upon labor problems: labor-relations legislation, old-age and unemployment insurance, workmen's compensation, wages-and-hours legislation.

Levinson; W; Y; 1975.

522 Economics of Human Resources (4)

Current developments in theory, empirical research and policy with respect to investment in human resources, economic value of education, manpower programs and growth.

Galloway; Sp; Y; 1976.

530 Public Finance (3-4)

Role played by government as user of economic resources and redistributor of incomes: need for government's entry into economy, optimal size of government, selection of tax and expenditure schemes and effects of government economic activity on private sector.

Ghazalah; Sp; Y; 1976.

531 Economics of Transportation (3-4)

Economics of transport pricing, regulation of transport and national transport policy.

Koshal; W; A; 1975.

532 Industrial Organization (4)

Social consequences of monopoly and competition, policy prescriptions dealing with economic concentration and market structure. Impact on United States business, and government regulation of business.

Hewins; Sp; A; 1976.

533 Government and Agriculture (4-5)

American agriculture as an industry; economics of government policies and programs; consideration of forces and objectives in policy formation.

DeVeau; W or Sp; A.

534 Public Utilities (3-4)

Economic basis of public utility concept and its relation to business organization. Nature, scope, development, legal organization and regulation of public utilities.

Levinson; Sp; Y; 1976.

540 International Economics (4)

Economic relations of nations of the world. Economic basis for international trade and investments, mechanics of international exchange; tariffs, quotas, exchange control, cartels and state trading as devices of economic nationalism; international economic cooperation with special reference to organizations affiliated with the United Nations.

Picard; W, Su; Y; 1976.

541 International Economic Policy (4)

Prereq: 540. Current economic developments of foreign and United States economic policy, including tariffs, controlled trade, international agreements, commercial treaties, foreign exchange control, clearing agreements, international liquidity controversy and contemporary balance of payments problems. Roles of institutions such as world bank and International Monetary Fund discussed with emphasis on interaction of domestic and international goals and policies.

Picard; Sp; A; 1973.

550 Economic Development (4)

Nature of, obstacles to and future possibilities for economic growth of nations; problems of underdeveloped countries; studies of selected countries.

Deuster or Charle; F; Y; 1975.

551 Agricultural Development (4)

Patterns of agricultural development in U. S. and selected foreign areas; technological and demographic changes in agriculture; socio-economic problems; marketing arrangements; case studies of specific agricultural development projects.

DeVeau; Sp; A.

552 Economic History of the United States (4-5)

Economic development of United States. Growth of banking, manufacturing, labor unions and agriculture from colonial times to present.

Vedder or Klingaman; F, W; Y; 1976.

553 European Economic History (4-5)

Economic growth of developed countries; industrial revolutions in Great Britain, France, Germany, Soviet Union and Japan. Historical experiences of these countries related to various theories of economic change.

Vedder or Klingaman; Sp; Y; 1976.

554 Latin American Economic History (4)

Prereq: grad rank, perm. Fundamental assumption of course is that current problems of economic development of Latin America can be better understood if student has a solid knowledge of economic history of the region. Therefore, between one-half and two-thirds of course will cover economic history with emphasis on larger countries such as Brazil, Argentina, Chile, Peru and Mexico. Particular attention given to legacies of the past which affect current foreign private investment, etc. In the latter part of course current problems will be discussed such as declining terms of trade, import substitution, urbanization, national and regional planning, etc.

Staff; D.

555 African Economic Development (4)

Prereq: 550. African societies as traditional economies and in process of modernization.

Charle; W; Y; 1975.

561 Monetary History of the United States (4)

Correlation of developments in American history with development of monetary institutions, policy and theory. Evolution of commercial and central banking and relationship to economic activity in history of United States.

Adie; D.

570 Comparative Economic Systems (4-5)

Theoretical and institutional characteristics of capitalism and socialism with emphasis on prevailing economic systems in the United States, England and Russia.

Creuson; F; Y; 1974.

571 Economics of Planning (3-4)

Major applications of economic planning to private and public planning; national, regional, local, centralized and decentralized planning. Procedures and techniques; organization, economic analysis, social accounting, input-output analysis, linear programming, location theory, industrial complex analysis; gravity, potential and spatial models, computers and planning; research and development.

Lovenstein; W; Y; 1976.

572 Economics of the Soviet Union (4-5)

Operation of Soviet Union economy: allocation of resources; planning, saving and investment; agriculture; public finance; price system, and international trade.

Lovenstein; Sp; Y; 1976.

573 Economics of Southeast Asia (4 or 5)

Prereq: 550 or perm. Economic characteristics, development problems, strategies and prospects of countries of Southeast Asia.

Deuster or Shukla; Sp; Y; 1976.

574 Economics of Latin America (4)

Prereq: 550 or perm. Economics of Latin American countries, prospects for economic development of the region, nature and origin of institutional obstacles to economic change. Economic heritage of colonial period and subsequent evolution of economic institutions, resources of the area and their utilization and trends in economic activity and policy in post-World War II period.

Staff; W; D; 1974.

575 The Chinese Economy (4-5)

Prereq: 550. China's early industrialization, 1880-1931; socialist transformation of each economic sector, 1949-1967; overall performance of Chinese economy and each economic sector and Maoist revision of orthodox Marxist-Leninist economic doctrines.

Staff; D.

600 Managerial Economics (4-5)

Prereq: 303. Measuring economic relationships, analyzing market behavior and examining some major economic decisions in business firm.

Koshal; F; Y; 1976.

603 Advanced Microeconomic Theory (4-5)

Prereq: 500 or perm. Consumer behavior, production and cost, behavior of firm in various types

of markets (perfect competition, monopoly, oligopoly, etc.), factor pricing, general equilibrium and welfare economics.

Staff; F; Y; 1976.

604 Advanced Macroeconomic Theory (4-5)

Prereq: 500 or perm. National income accounting, development of static Keynesian model and comparison with classical model, consumption and investment functions and simple cycle and growth models (models constructed by Hicks, Kaldor, Domar and Duesenberry).

Staff; W; Y; 1976.

605 History of Economic Thought (4-5)

Major economic doctrines: mercantilists and cameralists, physiocrats, Adam Smith and classical school, historical school, Austrian school, Alfred Marshall and neoclassicists.

Picard; Sp; Y; 1976.

635 Econometrics I (4-5)

Prereq: 500. Applications of statistics to economics. Design and estimation of economic models. Estimation of simultaneous equation systems.

Shukla or Koshal; W; Y; 1976.

636 Econometrics II (4-5)

Prereq: 635. Problems of simultaneous equations: identification problems, indirect least squares, two-stage least squares, limited information methods, full-information and 3-stage least squares. Analysis of economic data such as multicollinearity heteroscedasticity, lagged variables and dummy variables. Projects involving econometric methods. (Same as QM 636).

Shukla or Koshal; Sp; Y; 1976.

685A The Methodology of Economics (2)

Prereq: perm. Economics as a scholarly discipline. Nature and role of theory in economics. Relationship between economic theory, hypothesis formulation and methods of empirical testing of hypotheses.

Staff; F; Y; 1976.

685B The Methodology of Economics (1)

Prereq: perm. Continuation of 685A. See 685A for description.

Staff; W; Y; 1976.

685C The Methodology of Economics (1)

Prereq: perm. Continuation of 685A-B. See 685A for description.

Staff; Sp; 1976.

691 Seminar in Economics (2-6)

Seminars in following general areas: theory and thought; growth and development; monetary and fiscal; theory and policy; labor and human resources.

Staff; D.

693 Readings in Economics (1-6)

Readings and/or research in selected fields in economics under direction of a staff member.

Staff; F, W, Sp, Su; Y; 1976.

695 Thesis (1-15)

Staff; F, W, Sp, Su; Y; 1976.

696 Master's Seminar (3)

Writing of scholarly papers in areas of economics. (Required of all master's candidates on nonthesis program.)

Picard; F, W, Sp, Su; Y; 1976.

697 Independent Research (2-12)

Research in selected fields in economics under supervision of a staff member.

Staff; F, W, Sp, Su; Y; 1976.

EDUCATION**Curriculum and Instruction**

Educational Media

Elementary Education

International Comparative Education

and Educational Foundations

Secondary Education

Special Education

Applied Behavioral Sciences and Educational Leadership

Educational Administration
Educational Research and Evaluation
Guidance, Counseling and Student
Personnel
Higher Education

Professional Laboratory Experience

The College of Education offers graduate courses to help school workers raise their level of competence in their professional work. Programs are available leading to the MEd and PhD degrees. Detailed descriptions of these various graduate programs may be secured from the College of Education.

The types of programs offered cover the following professional fields:

Counselor Education in Higher Education
Curriculum and Supervision
Elementary Education
Elementary Principalship
Guidance and Counseling in Elementary Education
Guidance and Counseling in Secondary Education
Secondary Education
Secondary Principalship
Special Education
Student Personnel in Higher Education
Superintendency

In each of these fields, and to a limited extent in some other fields, the College of Education is prepared to advise students and to help them plan their graduate programs.

MASTER'S PROGRAMS

Students wishing to major in education may have a program of study arranged with a minimum of 40 hours of coursework and thesis, or a program of study with a minimum of 45 hours of coursework including Seminar in Education.

The most common programs of preparation for graduate students seeking the master of education degree are described in the following sections. A student seeking certification in Ohio or another state for administrative, supervisory or pupil personnel services positions should seek advice about requirements from his or her advisor.

To provide a common basis in the field underlying all aspects of education, all majors are required to complete the following:

History or Philosophy of Education
(one course)
Introduction to Graduate Study
EdRS 501

Thesis or Seminar in Education

The College of Education staff has prepared programs of study in several areas of specialization. These are listed below with brief comments as to their several purposes. Detailed programs, including required courses and suggested electives, may be secured from the Office of Graduate Studies in Education or from the College of Education staff members specializing in the area of the student's interest.

DOCTORAL PROGRAMS

Advanced preparation which may lead to the doctor of philosophy degree is offered with majors in counselor education, curriculum and instruction, educational administration, guidance and counseling, and student personnel services in higher

education. Areas of specialization in elementary and secondary education are offered at the doctoral level within Curriculum and Instruction. Minors for the doctorate are available in these and other areas of education and in other departments of the University.

Students who are admitted to doctoral study in education are expected to apply for admission to the division of advanced studies in education after two quarters of work. This admission is based upon a review of the student's qualifications, completion of at least nine hours of coursework, and the results of certain examinations. If admitted to advanced studies, the student is assisted by an advisory committee in developing the remainder of his or her program.

Curriculum and Instruction

The School of Curriculum and Instruction offers the master of education degree and the PhD degree.

Master's programs are offered in elementary, secondary and special education. Specific program emphases include curriculum and instruction, reading, mental retardation, learning disabilities, elementary, secondary and special education supervision.

PhD programs prepare individuals for college level positions in teacher education and curriculum and instructional and supervisory positions in school systems.

Specific program emphases include reading and language arts education, social studies education, supervision and economic education.

Students not seeking a degree may pursue graduate courses on a nondegree basis in a planned program of professional development.

For more information about programs, contact the Director, School of Curriculum and Instruction, College of Education, McCracken Hall, Ohio University, Athens, Ohio 45701.

For more information about admissions requirements, contact the Office of Graduate Studies, College of Education, McCracken Hall, Ohio University, Athens, Ohio 45701.

500. History of Western Education (4)

Prereq: perm. Survey of education in western world from ancient Judaic schools to major contemporary developments. Emphasis on institutional developments and cultural events which accompanied them.

Steens; D.

501. History of Education in the United States (4)

Prereq: perm. Survey of educational developments from colonial America to present. Readings include both primary and secondary sources. Emphasis on institutional developments and cultural events which accompany them.

Steens; W, Su; Y; 1976.

502. Evolution of Educational Thought (4)

Prereq: perm. Study of selected educational theorists and cultural assumptions which influenced their ideas. Where available, readings are from primary sources.

Steens; F, Y; 1975.

503. Philosophies of Education (4)

Prereq: perm. Survey of European and American educational theorists and movements from a philosophic perspective. Major European philosophic positions assessed, and contemporary educational thought in the United States studied.

Steens; Sp, Y; 1976.

504. Social Structure and Change in Education (4)

Prereq: perm. Studies in interaction of social structure and educational reform. Concepts of class, status, bureaucracy, technocracy and cultural pluralism assessed in their relationships to sociology of knowledge and educational alternatives.

Steens; Samaan, Su, Y; 1976.

505. Comparative Cultures and Education (4)

Emphasis on distinctive cultural, economic and political forces which shape patterns, problems and roles of education in some selected developed and developing nations. These include U.S., some European countries and at least one African and/or Asian nation where a former or present western culture has an impact. Assessment of this impact especially on educational developments.

Samaan; F, Y; 1975.

506A. Education and Development in Africa (4)

Prereq: perm. Introductory interdisciplinary course focusing on tradition and change in African society, problems of political independence, economic development, cultural values in transition, tribalism and nationalism and the role of Africa in world peace and international cooperation. Tradition and change in African education, the role of education in economic and technological development. Issues and problems in African education.

Samaan; D; 1976.

506B. Education and Development in Asia (4)

Prereq: perm. Introductory interdisciplinary course focusing on tradition and change in Asian education, landmarks in Asian educational developments, role of education in economic and technological development. Issues and problems in Asian education.

Staff; D.

506C. Education and Development in Latin America (4)

Tradition and change in Latin American education, landmarks in American educational developments, role of education in economic and technological development. Issues and problems in Latin American education.

Staff; D.

507. Programs in International Education (3)

Prereq: perm. Assistance programs to education in developing nations; foundation programs, UNESCO programs, AID programs. Assistance programs of other nations. Objectives, structures, funding, organization and plans for implementation.

Samaan; D.

508. Perspectives in International Education (4)

Prereq: perm. Introductory interdisciplinary course dealing with concept of international education understanding, psychology, economic and political preconditions; perceptions, values and attitudes. Human and cultural dimensions; role of education in attitude change and formation relative to international understanding and development; issues involved.

Samaan; W; Y; 1976.

510. Principles of Curriculum (4)

Major curricular movements, principles of curriculum development, forces affecting what is taught, curriculum evaluation and recent trends.

Lynn, Boyd; F, Sp, Su; Y; 1976.

520. Foundations of Reading Instruction—Elementary (5)

Prereq: EdRS 501. Current programs, materials and practices in reading instruction; developmental concept, emphasizing optimum realization of pupil potential and utilization of reading in total school curriculum.

Cooper; F, Su; Y; 1976.

521. Foundation of Language Instruction (5)

Prereq: EdRS 501. Current programs, materials and instructional practices in language-arts curriculum. Treatment of both impression and expression aspects of oral and written communication. Identification and individual investigation of problem areas.

Sp; 1976.

522. Diagnosis: Reading/Language (5-15)

Prereq: 520 or 526. Correlation of variability in reading proficiency. Incidence of retardation and disability. Proposed causes of failures and concept of multiple causation. Specialized materials and instructional efforts. Systematic observation of cases of reading disability and preparation of case reports.

Team; F, W, Sp, Su, Y; 1976.

523. Reading/Language Laboratory (5-15)

Prereq: 522. Application of developmental approach to problem cases in reading instruction, participation in diagnostic examination, parent and teacher conferences, individual procedures in tutoring, staffing of cases and preparation of reports. Weekly group discussion period, lab sessions arranged.

Team; F, W, Sp, Su, Y; 1976.

- 524 Literature for Children and Adolescents (5)
Seminar in critical analysis of research and theory related to children's and adolescent literature. Opportunity to study individual problems.
Leighty, Pinney; Sp; Y; 1976.
- 525 Corrective and Remedial Classroom Instruction in Reading (5)
Prereq: 522. Designed for classroom teachers and for teachers of remedial-reading classes, classroom testing, management of individualized learning, materials of instruction.
Staff; D.
- 526 Secondary Reading Instruction (5)
Prereq: 520 or 522 or perm. Materials, methods and developmental patterns of adolescent within area of reading. Remedial programs and adaption of materials to adolescent.
Leighty, Mangieri; Sp, Su; Y; 1976.
- 530 Problems and Practices in Modern Elementary Mathematics — Practicum (4)
Prereq: EdRS 501, perm. Modern elementary mathematics curriculum with emphasis on why changes are occurring. Nature of changes as reflected from experimental programs; effect of changes on methods of teaching. Implementation of these changes in the classroom.
Smith, D'Augustine, Pikaart; F; Y; 1975.
- 540 New Programs and Practices in Elementary Science — Practicum (4)
Prereq: EdRS 501 and perm. New programs and trends in science teaching identified and evaluated. Philosophy, content and grade level placement of topics in federal, foundations and privately sponsored experimental programs in elementary science identified. Practice in using materials proposed by those various groups.
Mills, Ploutz; W; Y; 1976.
- 541 New Topics in Science and Science Education for Elementary School Teachers (4)
Prereq: perm and teaching experience. Modern advances in science, such as space science, atomic energy, electronics and biochemistry, etc., to determine suitable content, apparatus and grade placement for presentation in elementary schools. Development and use of curriculum guides, modern units, outdoor education, science fairs, field trips, programmed materials and similar methods of advancing science education required.
Mills, Ploutz; D; 1976.
- 542 Seminar in Science Education (3)
Prereq: bachelor's degree and perm. Philosophy and approach incorporated in Intermediate Science Curriculum Study Program and participation in video-taped micro-teaching sessions.
Staff; D.
- 550 Teaching Strategies for Cultural and International Understanding (4)
Prereq: EdRS 501, perm. Psychological and sociological foundations of cultural values and ways of life investigated. Strategies for developing cross-cultural understanding and cooperation studied and developed. Emphasis upon innovative approaches to learning for elementary and secondary school pupils. Practicum provided.
Felsinger; F; Y; 1976.
- 551 Programs and Practices in Elementary Social Studies—Practicum (4)
Prereq: EdRS 501, perm. Trends in modern social studies curriculum.
Felsinger, Leep; Su; Y; 1976.
- 560 Advanced Studies of Children (4)
Prereq: 20 hrs of education and/or psychology. Intensive study of basic research in child development from conception to maturity and resultant implications for educational practices.
Brunk, Navin; W, Su; Y; 1976.
- 570 Nature and Needs of Exceptional Children and Youth (5)
Prereq: grad rank. Introductory course in special education at grad level. Major objective to provide graduate students with in-depth background and comprehensive understanding of nature and needs of exceptional children and youth, as well as a grasp of current issues and trends in field.
Leyser, Helsel; F, Sp; Y; 1976.
- 570A Curriculum and Instructional Materials for the Mentally Retarded (3)
Prereq: 6 hrs in special education. Advanced principles and methods of curriculum development and construction of resource units and teaching aids.
Jageman; F; Y; 1975.
- 570B Language Arts for the Mentally Retarded (3)
Prereq: 6 hrs in special education. In-depth methods and materials of language arts instruction with the mentally retarded.
Allen; F; Y; 1975.
- 570C Social Studies and Science for the Mentally Retarded (3)
Prereq: 6 hrs in special education. Detailed study of instruction in social studies and science, including development of a teaching unit for the mentally retarded.
Allen; W; Y; 1976.
- 570D Mathematics for the Mentally Retarded (2)
Prereq: 6 hrs in special education. Mathematics instruction with the educable and trainable retarded giving emphasis to vocational and social usage.
D'Augustine; W, Su; Y; 1976.
- 570E Vocational Education for the Retarded (3)
Prereq: 6 hrs in special education. Community surveys as means of delineating potential employment opportunities for handicapped persons. Emphasis on job analysis and establishing contacts with employers.
Staff; Sp; Y; 1976.
- 571 Problems in Education of Mentally Retarded Children and Youth (2-9)
Prereq: 6 hrs in special education and perm. Critical evaluation of selected current problems confronting teacher, consultant, specialist or administrator concerned with education of mentally retarded children and youth.
Leyser; F; Y; 1975.
- 572 Diagnosis and Evaluation of Handicapped Children (4)
Prereq: 6 hrs in special education. Formal and informal methods of assessment, screening and classification; collection and appropriate application of clinical data; formulation of prescriptive educational plans for handicapped children and youth utilizing laboratory experience and multidisciplinary consultations.
Schaaf; F; Y; 1975.
- 573 Education of the Multi-Handicapped (4)
Prereq: 6 hrs in special education. Etiology, diagnosis, classification, learning potentials and general characteristics of multiple handicapped children with emphasis on curriculum design and administrative organization.
Staff; D; 1976.
- 574 Introduction to Learning Disabilities (4)
Prereq: 6 hrs in special education. Overview of field of learning disabilities; various theoretical approaches to remediation.
Leyser; F, Su; Y; 1976.
- 575 Education of the Trainable Retarded (4)
Prereq: 6 hrs in special education. Etiology, diagnosis, classification, learning potential, organization of curriculum and teaching methodology for trainable retarded, including brain-damaged, cerebral palsied and hyperactive children.
Staff; F; Y; 1975.
- 576 Administration and Organization of Special Education (4)
Prereq: 6 hrs in special education. Historical perspective, diagnostic procedures, legislative provisions, research implications, community and professional resources and general organization and management of special education programs.
Helsel; Sp; Y; 1976.
- 577 Education and Counseling of Parents of the Handicapped (4)
Prereq: 6 hrs in special education. Development of skills required to set up parent education programs with emphasis on the educational aspect; interpreting problems of handicapped child to parents.
Staff; Sp; Y; 1976.
- 578 Early Childhood Education for the Handicapped (4)
Prereq: 6 hrs in special education. Purpose, organization and methods of early childhood education of the handicapped. Planning, guiding, supervising and evaluating growth and behavior of young handicapped children.
Inglis; D; 1976.
- 580 Homemaking and Family Living for the Retarded (3)
Prereq: 6 hrs in special education. Advanced organization and methodology of objectives, methods and materials for teaching family and living skills to handicapped children.
Staff; D.
- 581 Medical Aspects of Handicapping Conditions (2)
Prereq: 6 hrs in special education. Development of medical terminology and understanding of effect of medical conditions on conditions of learning. Emphasis on bio-chemical, convulsive and neurological disorders.
Staff; W; Y; 1976.
- 582 Diagnostic and Prescriptive Teaching with Learning Disabled (4)
Prereq: 574 and 6 hrs in special education. Methods of identifying and evaluating children's academic and behavioral problems and effective remedial procedures.
Staff; W; Y; 1976.
- 583 Education of the Emotionally Handicapped (4)
Prereq: 6 hrs in special education. Analysis of organization, specified psycho-educational procedures, modification of instruction materials and classroom management techniques.
Leyser; W; Y; 1975.
- 584 Teaching the Emotionally Disturbed (4)
Prereq: 583 and 6 hrs in special education. Programs, methods and materials used in education of emotionally disturbed child emphasizing team-developed prescriptive educational and behavioral procedures.
Staff; Sp; Y; 1976.
- 585 Behavioral Management of the Handicapped (3)
Prereq: 6 hrs in special education. Charting classroom behavior and behavior of teachers; overview of psychological principles of behavior modification; application of principles of behavior modification and reinforcement theory.
Staff; Sp; Y; 1976.
- 589 Problems in Learning Disabilities (2-9)
Prereq: 6 hrs in special education and perm. Critical evaluation of selected problems in area of learning disabilities.
Staff; F, W, Sp, Su; Y; 1976.
- 592 Workshop in Curriculum and Instruction (1-15)
Prereq: perm. (A maximum of 8 hours may be counted toward the requirements of a master of Education degree.) Designed to provide practicing teachers and other instructional personnel with inservice education directed toward their identified needs. Facilitates offering of short courses, workshops, and summer institutes. Following are areas of concentration currently available.
A. Language Arts
B. Social Studies
C. Science
D. Mathematics
E. Reading
F. Kindergarten
G. Individualizing Instruction
H. Team Teaching
I. Interaction Analysis
J. Developing Behavioral Objectives
K. Curriculum Development
L. Interdisciplinary Topics
M. Special Topics
N. Special Education Topics
O. Supervision of Instruction
Staff; D; 1976.
- 596 Introduction to Educational Media (4)
Prereq: grad rank. Principles of instructional materials and media applied to teacher-student communication. Basic experiences in production of instructional materials and equipment operation. Research paper required. Lab.
Strother; F, W, Sp, Su; Y; 1976.
- 597 Production of Instructional Materials (4)
Prereq: grad rank and 596 or EdAv 480. Use and preparation of locally produced, inexpensive instructional materials. Lab experience in use of pictures; lettering; coloring; preservation and reproduction techniques for pictures, slides, transparencies, etc.
Strother; W; Y; 1976.

605 Individual Studies in Comparative Education (2-6)

Prereq: perm. Studies in an area of national development.
Samaan; D.

606 Seminar in Comparative Education (3-5)

Prereq: perm. Introductory seminar providing opportunity to identify areas of interest and concern, to exchange ideas and views with others, and bring students from abroad, and to develop a rationale for study of educational systems and developments in other societies. Affords foreign students a technique for viewing American education and a means for American students to look abroad.
Samaan; D.

610 Elementary School Curriculum (5)

Prereq: EDKS 901. Curriculum as a basic educational concern, issues involved in selecting and organizing content, systematic study of curriculum development in the elementary school.
Ploghoft; F. Su; Y. 1976.

611 Supervision of Instruction (4)

Basic concepts and theories of supervision, case studies of supervisory situations and basic research in education and ancillary fields such as psychology, sociology, business administration, philosophy and communications.
Thompson; F. W. Su; Y. 1976.

612 Junior High-Middle School Curriculum (4)

Prereq: 510. Concentrates specifically on early adolescent age. Special emphasis on unique purposes and concepts of jr. high/middle school curriculum and its role in providing articulation between elementary school and senior high school.
Johnson; W. F. 1976.

613 High School Curriculum (4)

Prereq: 510. Curriculum patterns and theories of construction, curriculum reorganization and general curriculum research.
Thompson; F. Su; Y. 1976.

614 Analysis of Supervisory Systems (4)

Prereq: 611. Analysis of actual and/or simulated supervisory systems with attention to distinctive aspects of elementary, secondary and special education supervision.
Staff; Sp. Y. 1976.

615 Programs and Practices in Student Activities (4)

Prereq: perm. Comprehensive treatment of school-recognized activities in extracurricular program. Open to elementary, jr. and sr. high school teachers and administrators.
Lynn; D.

616 Post High School Adult Education—Curriculum and Practices (4)

Prereq: perm. Curriculum development in adult education, values and problems. Programs offered by various school systems.
Staff; D.

617 Evaluation of Secondary Schools (4)

Criteria, procedures and problems relating to evaluation of secondary school personnel and programs. Field experience in evaluation is encouraged.
Lynn; W. F. 1975.

618 Supervision of Special Education (4)

Prereq: 611 and 6 hrs of special education or perm. Emphasizes leadership skills, principles, practices and programs leading to improved education for handicapped children and professional growth for teachers in special education. These skills encompass all areas of exceptionalism and include the competencies for evaluating full-time, part-time programs and supportive services to children in the mainstream of education as these relate to each of the several handicapping conditions.
Allen; Sp. Y. 1976.

660 Advanced Principles of Teaching (4)

Critical appraisal of research in areas of learning and teaching.
Mitao; Thompson; F. Y. 1975.

670 Practicum in Education of Mentally Retarded (2-6)

Prereq: 6 hrs in special education and perm. Working directly with learning disabilities classes or with individual children to identify problems and develop and implement a prescriptive plan.
Staff; F. W. Sp. Y. 1976.

671 Practicum in Education of Emotionally Disturbed (2-6)

Prereq: 6 hrs in special education and perm. Individual experiences selected for preparation of personnel for classroom, consultant or supervisory positions.
Staff; F. W. Sp. Y. 1976.

672 Practicum in Administration of Special Education (2-6)

Prereq: 6 hrs in special education and perm. Directed administrative experiences in educational programs for handicapped.
Staff; F. W. Sp. Y. 1976.

673 Practicum in Learning Disabilities (2-6)

Prereq: perm and 6 hrs in special education. Working directly with learning disabilities classes or with individual children to identify problems and develop and implement prescriptive plan.
Staff; F. W. Sp. Y. 1976.

674 Practicum in Supervision of Special Education (2-6)

Prereq: perm and 6 hrs in special education. Directed supervisory experiences with special education classroom units.
Staff; F. W. Sp. Y. 1976.

690 Research in Education (2-6)

Individual study, under direct supervision of faculty, of a basic research problem, culminating in a written report.
Staff; F. W. Sp. Su; Y. 1976.

691 Seminar in Education (3)

Prereq: 35 hrs or perm. Problems in education. Emphasis on research of special problems and development of a scholarly research paper.
Staff; F. W. Sp. Su; Y. 1976.

695 Thesis (2-10)

Prereq: perm.
Staff; F. W. Sp. Su; Y. 1976.

696 Organization and Administration of Educational Media Programs (5)

Prereq: perm and grad rank. Duties of university and public school media directors; budgeting, training of personnel, handling and classifying materials, management and evaluation programs. Research paper required.
Strother; F. W. Y. 1976.

699 Practicum in Educational Media (3-9)

Prereq: perm and grad rank. Course participants evaluate a number of media centers for several university media areas. Participants required to prepare written reports on center evaluations.
Strother; Roberts; D. 1976.

700 Advanced Foundation of Education (4)

Prereq: perm. Seminar for selected interdisciplinary studies in social, cultural and philosophic foundations of education.
Steiers; D.

706 Advanced Seminar in Comparative Education (5)

Prereq: perm. Emphasis on interdisciplinary treatment of problems and concerns. Contemporary situations investigated. Techniques for comparative study of educational systems and developments.
Samaan; D.

709 Internship in Comparative Education—United States or Abroad (10-15)

Prereq: perm. One-year assignment with stateside operation (such as aiding or assisting in comparative education program) or an assignment abroad. Interns required to have had experience in teaching in the U.S.
Samaan; D.

715 Theories of Curriculum Change (5)

Prereq: 600 or perm. Major curriculum models and their underlying theory. Critical reading and interpretation of research related to curriculum change and effectiveness. Applications of theory and research in new models.
Byrd; Thompson; F. Y. 1975.

716 Theories of Instructional Change (5)

Prereq: 600, 715. Theories and models of instruction, their psychological and philosophical basis, construction of models of instruction to effect desired changes and development.
Mitao; W. Y. 1976.

717 Human Dynamics for Curriculum Change (5)

Prereq: 716. Theoretical models of personality, group process and communication, series of encounter sensitivity sessions.
Ploghoft; Sp. Y. 1976.

719 Curriculum and Instruction Practicum (6)

Prereq: 715, 716, 717. Supervised experiences in analysis and application of theories and techniques of curriculum change and instructional change in school setting.
Staff; F. W. Sp. Su; Y. 1976.

720 Foundations of Elementary Reading Instruction (5)

Critical evaluation of literature and recent research on objectives, content and methodology. History of instruction, current problems and issues, recent trends and emphases in teaching practices. Impact of dominant theories of learning and philosophies of education. Research design and methodology in scientific investigations.
Cooper; F. Su; Y. 1976.

721 Foundations of Language Instruction (5)

Prereq: perm. Critical evaluation of literature and recent research on objectives, content and methodology. History of instruction, current problems and issues, recent trends and emphases in teaching practices. Impact of dominant theories of learning and philosophies of education. Research design and methodology in scientific investigations.
Cooper; F. Y. 1976.

722 Diagnosis: Reading/Language (5-15)

Prereq: 720 or 726. Correlation of variability in reading proficiency. Incidence of retardation and disability. Proposed causes of failure and concept of multiple causation. Specialized materials and instructional efforts. Systematic observation of cases of reading disability and preparation of case report.
Team; F. W. Sp. Su; Y. 1976.

723 Laboratory-Reading/Language (5-15)

Prereq: 722. Application of developmental approach to problem cases in reading instruction: participation in diagnostic examination, parent and teacher conferences, individual procedures in tutoring, staffing of cases and preparation of reports. Weekly group discussion period. Lab sessions arranged.
Team; F. W. Sp. Su; Y. 1976.

724 Literature for Children and Adolescents (5)

Seminar in critical analysis of research and theory related to children's and adolescent literature. Opportunity to study individual problems.
Leighy; Pinney; Sp. Y. 1976.

725 Corrective and Remedial Classroom Instruction in Reading (5)

Prereq: 722. Designed for classroom teachers and for teachers of remedial-reading classes; classroom testing, management of individualized learning, materials of instruction.
Staff; D.

726 Secondary Reading Instruction (5)

Prereq: 720 or 722 or perm. Materials, methods and developmental patterns of adolescent within area of reading. Remedial programs and adaptation of materials to adolescent.
Leighy; Margien; Sp. Su; Y. 1976.

730 Curriculum in Elementary Education—Mathematics (4)

Prereq: perm. Critical evaluation of literature and recent research on objectives, content and methodology. History of instruction, current problems and issues, recent trends and emphases in teaching practices. Impact of dominant theories of learning and philosophies of education.
Smith; D. Augustine; Pikaart; D.

740 Curriculum in Elementary Science Education (4)

Prereq: teaching experience. History of science instruction, curriculum problems, issues, recent trends and emphases in teaching practices. Impact of dominant theories of learning and philosophies of education on current curriculum changes in elementary school science. Critical review of existing curricular programs used as a framework for examining experimental programs. Emphasis on historical development of science education from dominant cultural nature study and scientific modern experimental program.
Miller; Plutiz; D.

750 Inquiry and Value Clarification in Social Studies (4)

Prereq: 550 or 551. Critical discussion of application of inquiry and value clarification models in teaching of social studies.
Leep; Edinger; W. Y. 1974.

760 Readings and Research in Human Development (3-5)

Interpretation of scientific literature on human development as related to classroom experience in preschool through adolescence. Independent projects and solving selected educational problems.

Brunk, Navin; D.

790 Advanced Seminar in Education-Research (4)

Prereq: perm. Review of current literature and research in education. Preparation of research proposal.

Staff; D.

800 The Child and Adolescent in Today's World (5)

Prereq: MS degree. Changing American family, impact of social and family changes on students as children and adolescents. Study and critique of major theories of child and adolescent growth and development. Future explorations of social changes as these relate to learning.

Staff; F; Y; 1975.

801 The School as a Dynamic Social Institution (5)

Prereq: MS degree, 800 or equiv. School as changing social system, changing philosophies, functions and cultural styles of school. Politics, control and conflict resolution in school.

Staff; W; Y; 1976.

802 The Curriculum Worker as a Change Agent (5)

Prereq: MS degree, 800, 801, or equiv. Analytical study of concepts of change as these relate to schools. Case studies and field experiences related to change included with emphasis on planning analysis and evaluation.

Staff; Sp; Y; 1976.

810 Seminar in the Supervision of Instruction (5)

Prereq: 614. Critical discussion of research reported in literature and that conducted by participants relating to educational supervision and application of findings to supervisory programs.

Staff; D.

820 Research and Curriculum in Elementary Education Reading (4)

Prereq: perm. Critical evaluation of literature and recent research on objectives, content and methodology. History of instruction, current problems and issues, recent trends and emphasis in teaching practices. Impact of dominant theories of learning and philosophies of education. Research design and methodology in scientific investigations.

Cooper; D.

821 Field Experience: Reading (5-15)

Prereq: 720 or 726. Supervised field experiences in reading.

Staff; D.

822 Field Experience: Language (5-15)

Prereq: 721. Supervised field experience in language.

Staff; D.

823 Independent Study: Reading (5-15)

Prereq: 720 or 726. Independent study with topic restricted to some aspect/level of reading instruction.

Staff; D.

824 Independent Study: Language (5-15)

Prereq: 721. Independent study with topic restricted to some aspect/level of language instruction.

Staff; D.

827 Practicum in Secondary Education—English (5)

Prereq: perm. Depth study of school system and its English curriculum with critique by faculty and report by student, utilizing available research.

Staff; D.

828 Practicum in Secondary Education—Modern Foreign Languages (5)

Prereq: perm. Depth study of school system and its modern foreign language curriculum with critique by faculty and report by student, utilizing available research.

Staff; D.

830 Research in Elementary Education—Mathematics (4)

Prereq: perm. Research design and methodology in scientific investigations.

Staff; D.

831 Practicum in Secondary Education—Mathematics (5)

Prereq: perm. Depth study of school system and its mathematics curriculum with critique by faculty and student report utilizing available research.

Staff; D.

840 Research in Elementary Education—Science (4)

Prereq: perm. Critical evaluation of recent research on objectives, content and methodology in science education. Research design and methodology of these investigations studied in detail. Review of microfilm research studies and abstracts made to identify areas and problems requiring further research.

Staff; D.

841 Practicum in Secondary Education—Science (5)

Prereq: perm. Depth study of school system and its science curriculum with critique by faculty and report by student, utilizing available research.

Staff; D.

850 Seminar in Social Studies Education: Curriculum in Social Studies (3)

Prereq: 8 hrs grad work in social studies education, post-MS. Analysis of social, curricular and instructional theories of various contemporary schools of thought in social studies.

Leep, Felsinger; F; D; 1975.

851 Seminar in Social Studies Education: Program Analysis (3)

Prereq: 850. Depth analysis of school system and its social studies curriculum.

Staff; W; D; 1976.

852 Seminar in Social Studies Education: Research (3)

Prereq: 851. Identification of reasonable researchable problems in social studies and development of appropriate research design.

Staff; Sp; D; 1976.

890 Research in Elementary Education (2-12)

Prereq: admission to advanced standing.

Staff; F, W, Sp, Su; Y; 1976.

895 Dissertation (2-15)

Prereq: perm.

Staff; F, W, Sp, Su; Y; 1975.

Applied Behavioral Sciences and Educational Leadership

Educational Administration

Educational Research and Evaluation

Guidance, Counseling and Student Personnel

Higher Education

The School of Applied Behavioral Sciences and Educational Leadership offers a number of graduate programs which are designed primarily to prepare professionals to assume nonteaching, intervention and leadership roles in the educational enterprise or higher education positions related to the preparation of personnel to assume these roles. The program areas and specializations within the school include: elementary school principalship; secondary school principalship; superintendency; higher education; elementary, secondary and post-secondary guidance and counseling; community counseling; student personnel, and educational research and evaluation. These program areas provide curricular and organizational structure for various degrees and certificated programs in the school: MEd in guidance, counseling and student personnel; PhD in guidance, counseling and student personnel; MEd in educational administration; educational specialist certificate in educational administration, and PhD in educational administration. Students not seeking degrees may pursue graduate courses in a planned program of professional development.

Educational Administration

Programs are offered in educational administration leading to the master of education, educational specialist certificate and doctor of philosophy degrees. Students seeking certification may work toward the following administrative certificates: elementary principal, secondary principal, administrative specialist and superintendent. The educational specialist certificate and the PhD offer areas of specialization in: principalship, superintendency, business administration and personnel administration. Also available at the PhD level is a specialization in higher education.

Opportunities for specialization are provided to meet individual needs and to prepare for specific responsibilities in school systems, colleges and universities and state departments of education.

The resources of the Center for Educational Research and Service and the projects which it undertakes offer opportunities for graduate students to participate in field studies. Internship and field experience practica are available.

The cooperative arrangements with other colleges of Ohio University make it possible for the student to pursue a wide range of interests and thus achieve a high degree of competence for a specific type of position.

Students may apply for scholarships, graduate assistantships and fellowships. All students accepted for graduate appointments do research work or are assigned teaching responsibilities in the College of Education.

601 Introduction to Educational Administration (4)

Nature and critical tasks of educational administration, problems and issues, purposes, situational factors, processes; qualifications for the job, personal assessment, preparations, in-service training, professional opportunity and challenge.

Staff; F, Sp, Su; 1975-76.

611 Educational Law (5)

Prereq: 601. Selected principles of constitutional, statutory, case and common law affecting schools and school personnel with special reference to Ohio school law.

Rodgers; Sp, Su; 1974-75.

621 Educational Finance (5)

Prereq: 601. Examination of economics of education; educational finance as type of public finance; theories, concepts and issues related to programs designed to achieve equalization of educational opportunities; local, state and federal programs of financial support for education.

Roaden; F, Sp; A; 1975.

631 Personnel Administration in Education (4)

Prereq: 601. Organization and implementation of personnel function. Covers organizational structure, staff procurement, staff selection, staff development and conditions of service for people in the organization. Competencies in course conceptually oriented to provide understanding of personnel process.

Evans; F, Su; 1974-75.

640 The Principalship (4)

Prereq: 6 hrs including EdAd 601 and EdRs 501. Leadership theories and practices. Autonomous school; school/community organization; social-political forces; instructional leadership; teacher appraisal, elementary, middle and secondary school administration.

Shuster, Rodgers; Su; Y; 1974-75.

641 The Principalship-Skill Competencies (4)

Prereq: 640. Designed for persons aspiring to become administrators. Individualized approach to developing job skills in elementary, middle and secondary schools in actual job setting; however, simulation may be used by student when approved by instructor.

Shuster, Rodgers; W; Y; 1975-76.

652 Problems in Administration of Education (1-4)

Prereq: perm. Intensive courses of one week or longer. Each course covers a phase of administration.

tion, such as business, personnel, facilities, etc. Credit to depend on length of course. A work-shop-type of organization given at specified times, usually during the summer.

Staff: F, W, Sp, Su; Y: 1973-75

661 Public Relations in Education (4)

Prereq: 601 or perm. Principles, program organization, agents and media in effective public relations, models of communication, attitude change, development of problem situations and simulations of practical problem solving techniques, examples from public school administration, higher education administration and sports administration.

Know: F, Su

690 Research in Educational Administration (2-6)

Prereq: perm. of advisor. Individual research studies.

Staff: F, W, Sp, Su; Y: 1975.

691 Seminar in Education (3)

Prereq: 45 hrs or perm. Special problems in educational administration.

Know: F, W, Sp, Su; Y: 1974-75

695 Thesis (2-10)

Prereq: perm.

Staff: D.

702 State and National Administration of Education (4)

Prereq: 601. State program of education, state responsibility, educational organization, certification and tenure, national problems in education.

Staff: D: 1973-75

703 Administration of Education in Other Countries (4)

Prereq: 601. Programs, organizational structure and control of education in other countries. United States assistance programs for educational administration in developing nations.

Staff: D: 1973-75

734 Competency Development in Personnel Administration (5)

Practicum designed to develop competency to perform effectively in area of personnel administration. Includes all aspects of personnel administration developed include writing policy, staff selection, staff evaluation, establishing record systems, career counseling, salary administration and meeting organizational and staff needs. Competencies developed in terms of actual situation.

Evans: Sp: 1973.

740 Special Problems of the Principalship (2-6)

Prereq: perm. Critical appraisal of major problems and issues in elementary, middle and secondary school administration. Individual and group study procedures.

Shuster, Rodgers: Su; Y: 1975-76.

742 Planning Educational Facilities (5)

Prereq: 601 or perm. Helps student gain an appreciation for importance of facilities to educational enterprises, to become knowledgeable about tasks and principles of, and processes, problems, involved in identification of need for, planning and acquisition of new facilities and for improvements to existing facilities.

Roaden: F, Sp; Y: 1974.

751 Business Administration in Education (4)

Prereq: perm. Helps student develop increased awareness of and appreciation for role and function of business administration in total educational enterprise and to gain understanding of major task areas of and competencies required and to become knowledgeable about current theories of and recommended practices in administration of business affairs in education.

Roaden: W, Sp; Y: 1975

780 Politics and Local School Administration (4)

Prereq: perm. Examines ideas related to political power and educational decision-making, community power structure, school board member nomination and election, politics and innovations and administrator's base of influence in community.

Evans: Y: 1974

784 Educational Planning and Evaluation (4)

Prereq: perm. Intended to help advanced graduate students gain better understanding of theories related to and systems and techniques employed in comprehensive planning and evaluation in educational enterprises of all types and levels, and

help students gain some competence in application of those theories, systems and techniques.

Roaden: Sp; Y: 1975.

791 Leadership Project-Problem Identification (4)

Prereq: perm. Individualized field-oriented course designed to assist practicing educator in conducting systematic, in-depth studies, to identify critical problem areas in selected phase of school system operation.

Staff: F, W, Sp, Su; Y: 1974-75

792 Leadership Project-Implementation (4)

Prereq: perm. Individualized field-oriented course to assist practicing educator in developing skills in identifying techniques and strategies for implementing change related to critical problem areas identified in 791.

Staff: F, W, Sp, Su; Y: 1974-75

793 Leadership Project-Analysis and Evaluation (4)

Prereq: perm. Individualized field-oriented course to assist practicing educators in identifying and using techniques for analyzing their practices in implementing change. Complete leadership project (791, 792 and 793) culminates in a written analysis and evaluation under direction of student's advisor.

Staff: F, W, Sp, Su; Y: 1974-75

811 Legal Aspects of Educational Administration (4)

Prereq: 611 and admission as post-master's student in education administration. Intensive study of selected aspects of both case and statutory law, constitutional basis for education, schools in their legal setting, school legislation and relevant court decisions. Extensive reading in an approved law library required.

Rodgers: F: 1974-75

824 Seminar in Educational Finance (5)

Prereq: 621, perm. Helps students gain greater depth of understanding of theories, practices, problems and issues in and increased competence in performance of tasks of financing educational enterprises.

Roaden: D.

831 Seminar in Collective Negotiations in Personnel Administration (4)

Prereq: 631. Development of theoretical framework within which to handle collective negotiations. History of movement, recognition and representation, procedures, scope of negotiation process, bargaining power and impasse procedures, economics of bargaining, collective negotiation agreements, impact on educational administration and review of court cases and legal implications.

Evans: W, Su: 1974.

844 Seminar in Educational Facilities (5)

Prereq: 742, perm. Helps students gain greater depth of understanding of and competence in planning of educational facilities and administration of building programs.

Roaden: 1974

854 Seminar in Business Administration in Education (5)

Prereq: 751, perm. Helps students gain greater understanding of and competence in tasks of administration of business affairs in education.

Roaden: D: 1974

864 Seminar in Public Relations (5)

Prereq: 661, perm. Special topics, new concepts and specific techniques for public relations in public, private and higher education, in-depth investigation of problems of specific interest.

Know: Sp; Y: 1975

881 Organization in Educational Systems (4)

Prereq: perm. Study of organizational and systems theories and analysis of organizational systems, and of implications of such theories and systems for educational administration.

Roaden: W, Sp, Su; Y: 1974

890 Research in Educational Administration (2-6)

Prereq: perm. of advisor. Individual research studies.

Staff: F, W, Sp, Su; Y: 1974-75

895 Diversation (2-15)

Prereq: perm.

Staff: F, W, Sp, Su; Y: 1974-75

Educational Research and Evaluation

In addition to the courses provided in this program area, the research staff provides consultative services to both faculty and graduate students in the areas of research design, statistics, educational measurement and computer utilization. Laboratory facilities, including calculating machines, card punch and a library of statistical computer programs are made available.

501 Introduction to Graduate Study (3)

History and purposes of graduate education. Methods of research in education. Selection, planning and evaluation of research problems. Required of all graduate students in education.

Staff: F, W, Su; Y: 1974-75

510 Educational Measurements (4)

Application of measurement theory to selection and use of standardized tests. Reliability, validity, practicality, standard scores, development of testing programs and problems of selection and assignment.

Staff: W, Sp, Su; Y: 1974-75

691 Seminar in Educational Research and Evaluation (3)

Prereq: perm. Special problems in elementary education, guidance, secondary education, and school administration.

Staff: D: 1975-76.

695 Thesis (2-10)

Prereq: perm.

Staff: D.

711 Techniques of Test Development (3)

Prereq: perm. Construction of evaluation instruments for research and classroom use, item analysis techniques, tryout, revision, and validation of tests.

Hales: Sp: 1975-76.

712 Research in Educational Measurements (4)

Prereq: 711 and 720, or perm. Measurement and scaling theory, factor analysis, and research in selected measurement topics.

Hales: Sp; Y: 1975-76.

720 Educational Statistics I (5)

Tabulation and graphical representation of frequency tables, measures of central tendency, percentiles and percentile curves, measures of variability, standard normal curve, introduction to sampling theory, large and small samples, testing statistical hypotheses, t-distribution and correlation.

Barickowski or Sligo: F, Su; Y: 1975-76.

721 Educational Statistics II (5)

Prereq: 720. Chi-square, linear regression and nonlinear relations, partial correlation, multiple correlation and regression, various methods of correlation, sampling distributions, confidence intervals, simple analysis of variance and covariance. Use of computer statistical packages and other statistical aids.

Barickowski or Sligo: W, Su; Y: 1975-76.

722 Advanced Educational Statistics I (4)

Prereq: 721. One-way, two-way and higher dimensional designs, analysis of covariance with a variety of experimental designs. Multivariate analysis of variance and covariance, discriminant functions, canonical correlation and multiple discriminant functions.

Barickowski or Sligo: Sp; Y: 1975-76.

723 Questionnaires and Non-parametric Statistics in Education (4)

Prereq: 720. Emphasis on questionnaire design and analyses using non-parametric statistics. Sign test, Kolmogorov-Smirnov tests, test for runs, signed rank test, median test, various tests for comparison for k samples, confidence intervals in non-parametric statistics, and tests of independence.

Barickowski or Sligo: D: 1975-76

724 Research in Educational Statistics (4)

Prereq: 722. Interpretation of research studies from a statistical viewpoint. Emphasis on examination of research designs that involve statistics. Efficient methods of computation.

Barickowski or Sligo: D: 1975-76

731 Computer Science Applications in Education I (5)

Prereq: 720 or perm. Application of data processing and computer science techniques to problems in education.

Barickowski, F, Su; Y: 1975-76.

732 Computer Science Applications in Education (5)

Prereq: 721 and 731 or perm. Matrix manipulation in FORTRAN, subroutines, object time format, computational algorithms, tape and disk storage, storage in common, data packing, matrix mapping and other advanced programming techniques.

Barcikowski; W, Su; Y; 1975-76.

733 Research Design in Education (4)

Prereq: 720 and 721 concurrent. Critical evaluation and development of research studies. Emphasis on development of problems which admit to scientific investigation, statement of hypotheses, definition of terms, problems of sampling, statistical methods and interpretation and generalization of findings.

Barcikowski or Sliga; Sp; Y; 1975-76.

895 Dissertation (2-15)

Prereq: perm.

Staff; D.

Guidance, Counseling and Student Personnel

Programs are offered leading to graduate degrees with specialization in elementary school guidance and counseling, secondary school guidance and counseling, community counseling, college counseling, student personnel services in higher education and counselor education. Professional preparation in these programs for the master's and doctoral degrees is designed for persons planning to pursue careers in special areas such as elementary school counseling, middle school and junior high school counseling, senior high school counseling, community agency counseling and student personnel work such as admissions, registration, career counseling and placement, cocurricular activities, international student advising, student advising (academic), financial aids, housing and college counseling. The program is flexible enough to include preparation of counselors for settings other than the above that require preparation similar to programs in education. In addition, the PhD degree is offered to those persons seeking degrees in guidance and counseling, student personnel services in higher education and counselor education. The courses of study leading to degrees in the above areas combine personal growth, theoretical foundations, methodology and practical experience within the areas of choice and are designed for the special emphasis being sought and on the basis of the background being brought to the program by the student.

An undergraduate interested in such work should develop considerable breadth in the behavioral and social sciences. Undergraduate work in education, psychology, sociology and communication is especially useful. For those interested in guidance and counseling at the elementary and secondary levels, the development of a teaching area is still essential in many states for certification purposes.

520 Elementary School Guidance (4)

Prereq: perm. Rationale, scope and nature of elementary school guidance; multiple approaches to provision of guidance services in elementary school with emphasis upon role of elementary school counselors.

Staff; F; Y; 1974.

521 Counseling, Teaching and the Behavior Change Process (5)

Prereq: 520 or perm. Theories of behavior change process in an educational setting. Application and evaluation of techniques to facilitate and modify behavior which involves child, teacher, parent and counselor in learning and growing process.

Staff; F; Y; 1974.

522 Vocational Development: Research and Theory (4)

Prereq: 520 or 530 or 540. Vocational development of students in school settings, elementary

through college; ways school guidance and counseling services may facilitate vocational development of individual.

Staff; W; Y; 1975.

530 Foundations of Guidance (4)

Prereq: perm. Philosophy and principles underlying guidance, need for guidance in schools and consideration of major guidance services.

Staff; F, Su; Y; 1975.

531 Appraisal I (4)

Prereq: 520 or 530 or 540. Concepts of reliability and validity, as applicable to appraising human characteristics, set stage for considering critical role that "clinical judgment" plays in professional helping. Emphasis on basic appraisal techniques, including diagnostic interviewing, observational systems, rating scales, interactional analysis and educational and psychological testing. Testing portion provides introduction to intelligence, achievement, aptitude, perceptual, vocational and personality (objective and projective) measures.

Staff; F, Su; Y; 1975.

532 Appraisal II (4)

Prereq: 531. Continuation of topics, concepts and techniques presented in Appraisal I; however, emphasis on refinement of applied skills relevant to these issues. Administration, scoring and interpretation of specific tests relevant to each student's area of specialization will be included. Special attention devoted to: intelligence theory and tests (e.g., Stanford-Binet and Wechsler instruments); case data interpretation, and report writing and communication of appraisal results to other professionals.

Staff; W; Y; 1975.

533 Guidance of the Early Adolescent (4)

Prereq: perm. Essential guidance services as they apply to jr high and middle school populations in facilitating educational progress; study of early adolescent developmental tasks, and application of guidance principles to special problems of this population.

Staff; W; D; 1970.

534 Dynamics of the Adolescent (4)

Prereq: 520, 530, 540. Lecturing, discussions and 1-to-1 experiences with adolescent, in order to understand physical and educational, psychological, socialized forms which affect his or her behavior.

Staff; F, Sp; Y; 1975.

535 Guidance of the Exceptional (4)

Prereq: 520, 530, 540 or perm. Characteristics of individuals with physical and/or mental handicaps, as well as mentally retarded and gifted composing psychological, sociological, educational and vocational problems, specific to a certain handicap, by means of leading discussions and off-campus involvement with such individuals.

Staff; Sp; Y; 1974.

536 Guidance and Behavioral Aspects of the Culturally Different (4)

Prereq: perm. Educational and personal characteristics of the culturally different. Socio-economic and psychological determinants of their behavior. Aspects of guidance and counseling in dealing with their needs.

Staff; Sp; D; 1971.

537 Information Services (4)

Prereq: 520 or 530 or 540. Collection, evaluation, classification and use of basic information involved in careers and socio-personal development. Emphasis on career aspects of counseling and guidance; also topics such as drug education, sex education and death and dying.

Staff; Sp, Su; Y; 1975.

540 Dynamics of the Young Adult (4)

Psychological, socio-psychological and educational development of young adult with primary emphasis on college students and their interaction at the educational setting.

Staff; W; Y; 1975.

541 The Leadership Dilemma (4)

Prereq: perm. Introduction to field of student development; including historical background of field; in-depth investigation on an individual basis of various areas of student personnel, such as personnel and career counseling, academic advising, admissions, housing and student activities.

Staff; F; Y; 1974.

542 Decision Making in Student Personnel (4)

Prereq: 540, 541 and perm. Leadership styles, group roles in task groups in student personnel, communication and relationships with total college or university community; procedures for problem solving or decision making in a student affairs program.

Staff; Sp; Y; 1975.

550 Guidance and Counseling in Groups (5)

Prereq: 520, 530 or 541. Exploration of roles of group guidance and group counseling procedures in meeting individual student needs in educational setting.

Staff; W, Sp, Su; Y; 1975.

551 Group Dynamics, Theory and Research (3)

Prereq: perm. History, theory and techniques of group dynamics. Practical application of research concerning small group behavior; structure, process, product and leadership. Lectures, demonstrations and group observations on and off campus, as well as application to educational and vocational settings.

Staff; F; Y; 1974.

555 Counseling Theory and Techniques I (5)

Prereq: 520 or 530 or 540. Adlerian, behavior modification, client-centered, con-joint family, rational-emotive, reality, transactional and other theories as they determine counseling process and outcome.

Staff; F, Su; Y; 1975.

570 Organizational Theory and Techniques in Counseling and Personnel Services (4)

Prereq: 520 or 530 or 540. Emphasis on organization and administrative theories, as derived from behavioral science research. Techniques considered for variety of contexts, including schools, colleges and universities, mental health facilities and social service agencies.

Staff; Sp; D; 1971.

580 Guidance and Counseling in International Dimensions (3)

Prereq: 520, 530 or 540. Guidance and counseling in other countries, problems of Americans and internationals abroad, role of international student advisor and problems of bilingual American minority groups.

Staff; Sp; D; 1973.

600 Counseling Practicum: Elementary (5)

Prereq: perm. (May be taken 3 times for 15 hrs) Supervised counseling and guidance experiences with students in elementary schools and community agencies.

Staff; W, Sp; Y; 1975.

601 Counseling Practicum: Secondary (5)

Prereq: perm. (May be taken 3 times for 15 hrs) Supervised counseling and guidance experiences with students in secondary schools and community agencies.

Staff; W, Sp; Y; 1975.

602 Counseling Practicum: College (5)

Prereq: 540, 541, 555, 654 and perm. (May be taken 3 times for 15 hrs) Supervised counseling experiences with students in higher education settings.

Staff; W, Sp; Y; 1975.

603 Practicum in Student Personnel (5)

Prereq: 540, 541 and perm. (May be taken 3 times for 15 hrs) Supervised experiences in student personnel offices of the University or of neighboring educational institutions.

Staff; W, Sp; Y; 1975.

610 Field Experience in Guidance, Counseling and Student Personnel Services (2-12)

Prereq: perm. Supervised field work in educational or community setting selected with regard to professional needs and interests of individual student. Student should have a clear idea of type of field experience desired and required setting for the experience before enrollment. Course requirements will include on-site supervision by staff, regularly scheduled on-campus conferences and progress and terminal reports.

Staff; F, W, Sp, Su; Y; 1975.

620 Reading and Research in Elementary Guidance (1-3)

Prereq: perm. (Can be taken for total of 12 hrs) Study and interpretation of scientific literature on elementary guidance in educational settings. Independent and directed projects.

Staff; Sp; Y; 1975.

621 Reading and Research in Secondary Guidance (1-3)

Prereq: perm. (Can be taken for total of 12 hrs.) Study and interpretation of scientific literature on secondary guidance in educational settings. Independent and directed projects.
Staff: F, W, Sp, Y, 1975

622 Reading and Research in Student Personnel (1-3)

Prereq: perm. (Can be taken for total of 12 hrs.) Study and interpretation of scientific literature on student personnel in educational settings. Independent and directed projects.
Staff: Sp, Su, Y, 1975

623 Seminar in Guidance and Counseling (1-3)

Prereq: perm. (Can be taken for total of 12 hrs.) Seminar in special topics and projects in guidance, counseling and student personnel.
Staff: F, W, Sp, Y, 1975

652 Laboratory: Group Counseling (5)

Prereq: perm. Group experiences as basis for studying problems and process in group behavior change, growth and development. Leadership techniques in groups.
Staff: Sp, Y, 1974

654 Counseling Theory and Techniques II (5)

Experiential course to give students some basic communications, interview and counseling skills in preparation for counseling practicum.
Staff: W, Su, Y, 1975

691 Seminar in Education (3)

Prereq: 35 grad hrs, perm. Student chooses area important to himself or herself, engages in library research, interviews, questionnaires, experimentation, etc. and writes research paper, in which his or her position is stated. Paper is then defended before a panel, who examine student on content as well as ideas. Professor acts in advisory capacity.
Staff: F, W, Sp, Su, Y, 1975

695 Thesis (2-10)

Staff: F, W, Sp, D, 1975

700 Advanced Counseling Practicum: Elementary (5)

Prereq: advanced standing, perm. Supervised counseling and consulting experiences for advanced graduate students working within elementary schools and community agencies.
Staff: F, D, 1974

701 Advanced Counseling Practicum: Secondary (5)

Prereq: advanced standing, perm. Supervised counseling and consulting experiences for advanced graduate students working within secondary schools and community agencies.
Staff: D, 1974

702 Advanced Counseling Practicum: College (5)

Prereq: advanced standing, perm. Supervised counseling experiences for advanced graduate students working with students in higher education.
Staff: W, Sp, D, 1975

720 Advanced Seminar in Guidance, Counseling and Student Personnel (3)

Prereq: advanced standing, perm. May be taken 3 times for 9 hrs. Doctoral level seminar providing in-depth study of services included in guidance and student personnel profession:
a. elementary school
b. secondary school
c. college and university
Staff: F, Y, 1974

722 Vocational Development and Counseling (1)

Prereq: advanced standing, perm. Vocational development, career patterns and theories, guidance and counseling services which facilitate vocational development.
Staff: W, D, 1975

732 Advanced Appraisal (5)

Prereq: 531 and knowledge of normal and abnormal (or exceptional) personality behavior, 532 recommended. Advanced appraisal techniques reviewed, with particular attention given to personality measures. Both objective and projective techniques considered, and each student expected to develop applied expertise with a method of each type. Actual case appraisals analyzed and critiqued. Integration of data from a variety of appraisal procedures and professional communication of results emphasized.
Staff: Sp, D, 1974

735 Counseling the Exceptional (4)

Prereq: advanced standing, perm. Characteristics of exceptional individuals in educational settings; development and implementation of guidance and counseling services for the exceptional.
Staff: D

736 Counseling and Behavioral Aspects of the Culturally Different: Advanced (4)

Prereq: advanced standing, perm. Cultural and sociological influences on the culturally different and counseling implications.
Staff: D

741 College Student-Environmental Interactions (4)

Prereq: advanced standing, perm. Characteristics and interactions of college students and college environments. Implications for higher education and student personnel.
Staff: W, Y, 1975

750 Practicum in Group (5)

Prereq: perm. (May be taken 3 times for 15 hrs.) Advanced studies of group counseling and guidance, theory, procedures and applications. Supervised experiences in group counseling and guidance in educational settings.
Staff: W, Sp, Y, 1975

755 Counseling Theory: Advanced (5)

Prereq: advanced standing, perm. Counseling theories in depth such as psychoanalytical, client centered, behavioral, gestalt and rational-emotive. Comparison and contrast on philosophical bases, basic concepts, goals, methods, expected outcomes and evaluation.
Staff: F, Y, 1974

760 Counselor Education (4)

Prereq: perm. Counselor education and administration of counseling services, theories of supervision, dimensions of supervisory relationships, increasing staff capabilities, in-service training programs and national standards for counselor preparation.
Staff: W, Y, 1975

761 Practicum in Counselor Education (5)

Prereq: 760 and perm. (Can be taken for total of 15 hrs.) Recruitment, supervisory consultative, promotional, in-service training, research management, reporting, evaluative, leadership and regulatory functions in supervision and direction of guidance and pupil personnel programs at local, district and state levels.
Staff: Sp, D, 1975

762 Legal and Ethical Aspects of Counseling, Community and Personnel Services (4)

Prereq: advanced standing, Law and ethics considered for educational and mental health contexts. Federal, state and local statutes relevant to professional functioning and rights and liabilities of persons receiving guidance, counseling and psychological services considered. Court decisions, critical cases and legislation analyzed and interpreted. Code of Ethics for counselors, psychologists, student personnel workers and social workers reviewed. Guidelines for ethical behavior as professional helper developed.
Staff: Su, Y, 1974

763 Advanced Practicum in Specially Oriented Personnel Services (5)

Prereq: perm. Doctoral level practicum seminar intended to provide in-depth experience in selected services, personnel programs in a technical school, community and branch college, university setting, agencies and industries.
Staff: Sp, D, 1975

791 Advanced Seminar I (4)

Prereq: 60 hrs and perm. Preparation of research proposal.
Staff: F, D, 1972

792 Advanced Seminar II (4)

Prereq: 60 hrs and perm. Preparation of research proposal.
Staff: W, D, 1973

793 Advanced Seminar III (4)

Prereq: 60 hrs and perm. Preparation of research proposal.
Staff: Sp, D

821 Special Topic Seminar (1)

Prereq: perm. (Can be taken for total of 10 hrs.) Interpretation of scientific literature on pupil and student personnel services in educational and related settings. Independent and directed projects.
Staff: Sp, Y, 1975

823 Advanced Readings and Research in Guidance, Counseling and Student Personnel (1-3)

Prereq: advanced standing, perm. (Can be taken for total of 10 hrs.) Independent studies and specialized projects for doctoral students in counseling, student personnel, guidance and counselor education.
Staff: F, Y, 1975

825 Colloquium (1, max 3)

Prereq: perm. Doctoral level seminars to examine contemporary issues in guidance, counseling, student personnel and counselor education.
Staff: F, D, 1974

852 Advanced Laboratory in Applied Group Dynamics (5)

Prereq: advanced standing, perm. Group experiences as method of studying group growth and dynamics.
Staff: F, D, 1973

895 Dissertation (2-15)

Prereq: perm.
Staff: F, W, Sp, Su, Y, 1975

Higher Education**590 Higher Education (4)**

Background and growth of higher education in the U.S. Present status of various types of institutions.
Crouell: F, Su, 1974-75

591 Community Colleges and Branch Campuses (4)

Prereq: 590 or perm. Special problems related to administration of community and junior colleges, branch campuses, vocational and technical colleges and adult education programs.
Crouell: Sp, 1974-75

592 Teacher Education (4)

Prereq: perm. Teacher education in the U.S., its history, current status and current issues. For persons planning to teach in colleges and universities which prepare teachers.
Crouell: A, 1975-74

690 Seminar: Current Issues in Higher Education (1-9)

Prereq: 590, perm. On-going, up-to-date treatment of significant current developments in higher education.
Crouell: Sp, 1974-75

780 Dynamics of College Teaching (4)

Prereq: perm. College teaching examined as to its meaning, intent, current practice (including observation in university classes and potential improvement).
Ploghoft: W, 1974-75

781 Directed Experiences in College Instruction (5-10)

Prereq: perm. Individualized program under guidance of instructor or department which would include field study and experience in college teaching.
Ploghoft: W, 1974-75

782 Curriculum Development in Higher Education (4)

Prereq: perm. Critical study of factors and issues involved in curriculum development. Types of curricula and underlying philosophies. Curriculum research and evaluation in higher education.
Staff: D, 1973-74

783 Institutional Research and Self-Study in Higher Education (4)

Prereq: perm. Problems of institutional research office including institutional need and methods of data collection and reporting. Principles of long-range planning.
Knox, W, 1974-75

784 Practicum in Higher Education Administration (3-6)

Prereq: perm. Practice in working under supervision in special administrative offices in the university including offices of president, vice presidents, academic deans, business offices, etc.
Crouell: F, W, Sp, Su, 1974-75

785 Administration in Higher Education I: Structure and Organization (4)

Prereq: perm. Depth study of internal organizational patterns and structure of a variety of institutions of higher learning. Policy perspectives in higher education.

Crowell; F; 1974-75.

786 Administration in Higher Education II: Control and Support (4)

Prereq: perm. Principles and problems of finance in higher education. Focus on internal fiscal management as well as on social policies underlying financial support of higher education.

Crowell; W; 1973-74;

787 Problems in Higher Education (4)

Prereq: perm. Intensive study of 1 or more problems in contemporary higher education: administration, structure, law, finance, curriculum, etc.

Crowell; F, W, Sp; 1973-74.

821 Special Topic Seminar (1)

Prereq: perm. Seminar treatment of areas of current or topical interest in field of higher education. (May be repeated for credit.)

Crowell; W; 1974-75.

823 Readings and Research in Higher Education (1-3)

Prereq: perm. Independent study and specialized research projects for advanced students in field of higher education. (May be repeated for credit.)

Crowell; Sp; 1975.

Professional Laboratory Experiences

Professional laboratory experiences for graduate students are designed for the individual student by the director of field experience in conference with the student's graduate advisor. The experience is planned as a meaningful extension of the student's prior experience as a teacher, counselor or administrator. In general, undergraduate student teaching is a prerequisite for all graduate-level laboratory experiences.

560 Internship in Education (3-9)

Prereq: 9 qtr hrs graduate work in education and perm of director of field experience and student's graduate advisor. Teaching certificate and experience for interns in administration and supervision. Internship in school administration, supervision of instruction or classroom teaching for minimum of 1 qtr, full-time. Following brief period of orientation to school and community, student assumes increasing responsibility under direct supervision of staff member of school system. Student expected to function as classroom teacher with regular supervision, as team member in team-teaching situation or as assistant to administrator or supervisor. Weekly seminar conducted by college staff and public school associates.

Staff; F, W, Sp, Su; Y; 1974.

561 Internship in Education (3-9)

Prereq: 9 qtr hrs graduate work in education and perm of director of field experience and student's graduate advisor. Continuation of 560. See 560 for description.

Staff; F, W, Sp; Y; 1974.

570 Supervision of Student Teaching (3-9)

Prereq: teaching certificate and experience. Principles and techniques in supervision of student teaching and other professional laboratory experiences. Designed primarily to prepare public school teachers and college instructors for more effective supervision.

Staff; D; 1973-74.

690 Professional Laboratory Studies (3-9)

Special studies based upon direct experience in supervision of student teachers in campus or public school laboratories.

Staff; D; 1973-74.

760 Internship in Education (3-9)

Prereq: 9 qtr hrs graduate work in education, perm of director of field experience and student's graduate advisor. Teaching certificate and experience for interns in administration and supervision. Internship in school administration, supervision of instruction or classroom teaching for minimum of 1 qtr, full-time. Following brief period of orientation to school and community, student assumes increasing responsibility under direct supervision of staff member of school system. Student expected to function as classroom teacher with regular supervision, as team member in team-teaching situation or as assistant to administrator or supervisor. Weekly seminar conducted by college staff and public school associates.

Staff; F, W, Sp, Su; Y; 1974.

761 Internship in Education (3-9)

Prereq: 9 qtr hrs graduate work in education, perm of director of field experience and student's graduate advisor. Continuation of 760. See 760 for description.

Staff; F, W, Sp; Y; 1974.

790 Professional Laboratory Studies (3-9)

Special studies based upon direct experience in supervision of student teachers in campus or public school laboratories.

Staff; D; 1973-74.

ENGINEERING AND TECHNOLOGY

Chemical

Civil

Electrical

Industrial and Systems

Mechanical

Programs of graduate study may be formulated with majors in chemical, civil, electrical, industrial and systems or mechanical engineering.

The standard four-year course in engineering or its equivalent, as offered in institutions approved by the Engineers' Council for Professional Development, is a general prerequisite for graduate study. Graduates in science and other fields of engineering, whose programs have included sufficient courses in mathematics, physics, chemistry, the humanities and the social sciences, may be accepted as graduate students. Such students must take such undergraduate courses in basic engineering subjects as the staff may require.

Engineering, Chemical

A program of study and research leading to the MS is available. Students working toward the MS are expected to take a minimum of seven graduate-level chemical engineering courses or their functional equivalent. In addition, a minimum of two graduate-level courses must be elected with the advisor's approval required. The following courses must be included in the chemical engineering area: 500, 501, 503, 540, and 542.

A nonthesis option is available for students having proven research competence. This program requires a minimum of one additional graduate-level chemical engineering course (or its functional equivalent) and one additional elected graduate-level course. No more than two elected courses outside chemical engineering may be in the same department. A special topic investigation extending over two or more quarters is required of all participants.

Students are encouraged to take coursework outside the department in such relevant areas as mathematics, physics, chemistry, or other engineering disciplines. All resident graduate students are expected to participate in departmental graduate seminars when offered.

Special programs of study leading to the MS in chemical engineering are available for students who have received bachelor's degrees in other scientific or engineering fields. Inquiries are invited.

500 Applied Chemical Engineering Calculations (5)

Setting up of ordinary and partial differential equations corresponding to chemical engineering situations. Methods available for their solutions including classical, numerical and computer techniques. 4 lec.

Dinos; F; Y; 1975.

501 Advanced Chemical Engineering — Thermodynamics (5)

Chemical engineering processes, pure materials and mixtures. Criteria of equilibrium for homogeneous and heterogeneous systems. Correlation and estimation of properties; thermodynamic consistency tests, and thermodynamics of irreversible processes. 4 lec.

Baloun; Sp; Y; 1976.

502 Advanced Chemical Engineering — Thermodynamics (5)

Continuation of 501. See 501 for description.

Baloun; W; D; 1973.

503 Advanced Kinetics (5)

Use of chemical engineering kinetics and principles of similarity and model theory in design and scale-up of reactors, pilot plants and processes. 4 lec.

Kendall; Sp; Y; 1974.

506 Thermodynamics of Solids I (5)

Interpretation of thermodynamic quantities in atomistic terms with relationship to both ideal and defect structures in crystalline materials. Methods of obtaining thermodynamic data from phase diagrams and determination of phase diagram consistency. 4 lec, each.

Baloun; F; D; 1973.

507 Thermodynamics of Solids II (5)

Prereq: 506. Continuation of 506. See 506 for description.

Baloun; W; D; 1972.

530 Advanced Metallic Corrosion (5)

Review of basic principles and current theories of stress corrosion and embrittlement, corrosion fatigue and transgranular and intergranular corrosion. Some laboratory work utilizing recent techniques and apparatus. 4 lec.

Baloun; F; D; 1975.

531 Transformations in Metallic Solids I (5)

Kinetics of reactions in metallic solids; diffusion, eutectoid, bulk and other solid reactions. 4 lec.

Baloun; Sp; D; 1970.

534 Theoretical Structural Metallurgy I (5)

Advanced physical metallurgy. More complex atomic arrangements in metals and alloys. Elastic and plastic properties of single and polycrystalline materials including creep, creep recovery and the Bauschinger effect. 4 lec.

Baloun; W; D; 1972.

540 Process Dynamics (5)

Systems analysis. Use of automatic control in chemical processes. Determination of stability of processes containing feedback. 4 lec.

Baasel; Sp; Y; 1976.

542 Transport Phenomena (5)

Theoretical basis of development of heat, mass and momentum transfer. Boundary layer theory and comparison with other theoretical and semi-theoretical approaches. 4 lec.

Dinos; W; Y; 1976.

543 Transport Phenomena (5)

Prereq: 542. Continuation of 542. See 542 for description.

Dinos; Sp; D; 1972.

544 Transport Phenomena (5)

Prereq: 543. Continuation of 542-543. See 542 for description.

Dinos; F; D; 1973.

545 Advanced Chemical Engineering Operations (5)

Selected topics from absorption and extraction. Multicomponent, azeotropic and extractive distillation. Non-ideal separation processes. 4 lec.

Staff; Sp; D; 1972.

560 Atmospheric Pollution Control (4-5)

Prereq: perm. Air pollution from major industries, internal combustion engines, and other sources. Techniques available for measuring particulate and gaseous pollutants in atmosphere and at their sources. Techniques available for control and fu-

ture possibilities for control of air pollution. Bases for air pollution legislation.

Basel, Savage; Sp; D; 1976.

571 The Physical Chemistry of Macromolecules (3)

Prereq: Chem 455 or perm. Structure and behavior of large molecules, both synthetic and natural. 3 lec.

Day, Sp; Y; 1976.

572 Polymer Properties I (5)

Prereq: grad rank in engineering or chemistry. Polymer transitions, morphology or crystalline polymers, crystallization kinetics, effect of morphology on physical properties and methods of altering physical properties. 4 lec.

Collier; Sp; D; 1973.

573 Polymer Properties II (5)

Prereq: grad rank in engineering or chemistry. Orientation and fiber properties, composite materials, time-temperature super-positioning of mechanical properties, thermal stability and stress cracking. Relationship between ultimate properties and possible uses of polymeric materials. 4 lec.

Collier; W; D; 1972.

574 Advanced Polymer Engineering I (5)

Prereq: grad rank in engineering. Non-Newtonian and viscoelastic, melt and solution rheology; constitutive equations and fabrication of polymeric materials. 4 lec.

Collier; F; D; 1973.

575 Advanced Polymer Engineering II (5)

Prereq: 574. Continuation of 574. See 574 for description. 4 lec.

Sp; D; 1972.

577 Polymer Synthesis and Properties (5)

Synthesis mechanisms and how these mechanisms, resultant polymers and their properties are interrelated. 4 lec.

Collier; Sp; D; 1971.

681 Research in Chemical Engineering (1-15)

Staff; F, W, Sp, Su; Y; 1974.

690 Special Topics in Chemical Engineering (1-6)

Advanced study in a particular field of chemical engineering.

Staff; F, W, Sp, Su.

691 Readings and Seminar (1)

Assigned readings and special reports in selected areas of chemical engineering theory and practice.

Dinos, Staff; F, W, Sp, Su; Y; 1974.

695 Thesis (1-15)

Dinos, Staff; F, W, Sp, Su; Y; 1974.

700 Seminar in Engineering Mathematics (1-6)

Advanced study in applied mathematics in chemical engineering. Restricted to small groups, with extensive student participation required.

Staff; Sp; D; 1974.

701 Seminar in Irreversible Thermodynamics (1-6)

Advanced study in thermodynamics with emphasis on irreversible thermodynamics. Restricted to small groups, with extensive student participation required.

Staff; Su; D; 1970.

703 Engineering Analysis (5)

Application of modern mathematical tools such as tensor calculus, matrix analysis, functional approximations, iterative methods, asymptotic approximations and special function theory to problems in major fields of engineering. Mathematical modeling, alternative methods of approach to solution and interpretation of results. 4 lec.

Staff; Sp; D; 1971.

704 Engineering Analysis (5)

Prereq: 703. Continuation of 703. See 703 for description.

705 Engineering Analysis (5)

Prereq: 704. Continuation of 703-704. See 703 for description.

706 Seminar in Statistical Thermodynamics (5)

Advanced study in thermodynamics with emphasis on statistical thermodynamics. Restricted to small groups, with extensive student participation required.

709 Seminar in Reactor Kinetics (5)

Advanced study in chemical engineering reactor kinetics. Restricted to small groups, with extensive student participation required.

Staff; W; D; 1974.

730 Seminar in Corrosion (5)

Advanced study in corrosion. Restricted to small groups, with extensive student participation required.

Baloun.

734 Seminar in Metal Physics (3)

Advanced study in theoretical metallurgy with emphasis on physics. Restricted to small groups, with extensive student participation required.

Baloun.

740 Seminar in Process Dynamics (5)

Advanced study in chemical engineering process dynamics. Restricted to small groups, with extensive student participation required.

Basel; W; D; 1974.

741 Seminar in Control Theory (5)

Advanced study in analog, hybrid and digital computer control theory. Restricted to small groups, with extensive student participation required.

Basel.

742 Seminar in Transport Phenomena (1-6)

Advanced study in transport phenomena. Restricted to small groups, with extensive student participation required.

Dinos; W; D; 1974.

Engineering, Civil

In civil engineering a master of science degree may be earned in the fields of fluid mechanics, solid mechanics, soil engineering, sanitary engineering, structures or transportation. Certain related courses offered by other departments can count toward the major requirements, for example: various courses in mechanical engineering or mathematics can be included as part of a major in mechanics and selected courses in chemistry or bacteriology can be considered as part of the major study in sanitary engineering. Some study outside of the department, but in related fields, is encouraged for all students. For the nonthesis option, 45 quarter hours are required, of which three to five hours involve a special investigation. The thesis option requires 30 quarter hours of coursework plus a thesis. A student, in consultation with an advisor, arranges his or her own program to suit personal needs and to satisfy the requirements of the Civil Engineering Department.

515 Photogrammetry (3)

Prereq: perm. (winter). Equipment and methods used in aerial photography and land measurement. 2 lec, 2 lab.

Konehige; W; Y; 1976.

523 Continuum Mechanics (4)

Prereq: perm. (spring). Matrix methods in mechanics and structures; law of dynamics; mechanical properties of solids and fluids; basic theories of continuum mechanics. 4 lec.

Hazen; Sp; Y; 1973.

524 Strength of Materials II (3)

Prereq: perm. (fall). Theories of failure, unsymmetrical bending, shear center and other topics not covered thoroughly in undergraduate course. For nonmajors in civil engineering. 3 lec.

Staff; F, Y; 1975.

525 Advanced Strength of Materials (4)

Prereq: perm. (fall). Advanced treatment of theories of failure, stresses and strains at a point, cross shear, unsymmetrical bending, curved beams, torsion, thick-walled cylinders, energy methods. 4 lec.

Staff; F, Y; 1975.

526 Theory of Stability (3)

Prereq: perm. (winter). Buckling of columns, beam columns, plates and rings. 3 lec.

Hazen; W; Y; 1975.

527 Experimental Stress Analysis (3)

Prereq: 524 or 525. Elasticity theory; theory and use of mechanical, electrical and other strain-measuring devices including photoelastic equipment. 2 lec, 3 lab.

Hazen; Sp, Y; 1976.

528 Theory of Elasticity and Applications (3)

Prereq: perm. (winter). Equations of equilibrium and compatibility; stresses and strains in beams, curved members, thick cylinders, torsion and structural members.

Hazen; F, Y; 1975.

529 Mathematical Theory of Elasticity (3)

Prereq: 528. (spring). Fundamental equations and problems of elasticity theory; methods of stress functions and displacement potentials; finite element applications.

Hazen; W; Y; 1975.

535 Advanced Structural Theory I (4)

Prereq: perm. (fall). Analysis of indeterminate structures by both classical and modern methods. Analysis of multistory bents, arches, closed rings and frames with variable cross-sections. Plastic theory and design. 4 lec.

Shermer; F; Y; 1975.

536 Advanced Structural Theory II (4)

Prereq: 535. (winter). Continuation of 535, relaxation methods, matrix methods, shell structures. 4 lec.

Shermer; W; Y; 1975.

537 Advanced Structural Design (4)

Prereq: 536. (spring). Modern design concepts and principles as applied to various construction materials. 4 lec.

Shermer; Sp; Y; 1975.

542 Applied Hydraulics (3)

Prereq: perm. (spring). For nonmajors in civil engineering. Flow and pressure distribution in multi-loop networks, dynamics of flow in pumps and turbines. Uniform and nonuniform flow in open channels, culvert hydraulics, hydraulic transients. 2 lec, 2 lab.

Olson; Sp; Y; 1976.

543 Open Channel Hydraulics (3)

Prereq: perm. (spring). Principles of uniform and varied flow. Channel design for uniform flow, gradually varied flow profiles, channel transitions, hydraulic jumps, flow in prismatic and nonprismatic channels. 3 lec.

Olson; Sp; Y; 1976.

546 Potential Flow Theory (3)

Prereq: perm. (fall). Inviscid flow theory. General equations of fluid mechanics, study of potential flows. 3 lec.

Olson; F; Y; 1975.

547 Viscous Flow Theory (3)

Prereq: perm. (winter). Mechanics of fluid resistance, laminar and turbulent flow, applications to external boundary layer flow and to flow in ducts. 3 lec.

Olson; W; Y; 1976.

555 Advanced Water Treatment (4)

Prereq: perm. (winter). Advanced study of theory. Design of treatment units. Practice in control methods. 3 lec, 3 lab.

Konehige; W; Y; 1974.

556 Advanced Waste Water Treatment (4)

Prereq: perm. (spring). Advanced study of theory. Design of treatment units. Practice in control methods. 3 lec, 3 lab.

Konehige; Sp; Y; 1974.

558 Water Quality Engineering (3)

Prereq: perm. (spring). Natural and man-made characteristics of water quality, changes in quality resulting from use, criteria for control of stream pollution, methods of improving water quality, legal and economic aspects.

Staff; Sp; Y; 1974.

562 Traffic Engineering (3)

Prereq: perm. (winter). Vehicle and driver characteristics, use of traffic control devices, intersection design, and capacity, parking characteristics. For nonmajors in civil engineering. 2 lec, 2 lab.

Russ; W; Y; 1976.

563 Traffic Parameters (4)

Prereq: perm. (fall). Vehicle-highway relationships, including vehicle performance and highway

geometry; highway capacities and their influence on design.

Russ; F; Y; 1975.

564 Transportation Data Methods (4)

Prereq: perm. (winter). Introduction to traffic survey methods, data collection, evaluation. Topics include origin-destination, speed, parking, accident and future development studies.

Russ; W; Y; 1976.

565 Traffic Regulations and Controls (4)

Prereq: 563 or perm. (spring). Typical traffic ordinances and regulations and their utilization to control traffic through use of signs, markings, control devices, traffic signals including their use as single units or as a progressive series.

Russ; Sp; Y; 1976.

567 Traffic Studies I (1-4)

Prereq: 564. (spring). Practical problems relating to traffic surveys and data analysis.

Russ; Sp; Y; 1976.

568 Traffic Studies II (1-4)

Prereq: 565 or perm. (winter). Practical problems relating to vehicular characteristics and traffic movements.

Russ; W; Y; 1974.

570 Soil Engineering (4)

Prereq: perm. (winter). For nonmajors in civil engineering. Soil composition, physical and chemical properties and classifications. Water movement and seepage problems; stress distribution, settlement and shear strength. Applications to earth structures, retaining walls, foundations and slope stability. 3 lec, 2 lab.

W; Y; 1973.

572 Soil Mechanics I (3)

Prereq: perm. (fall). Water movement through soil, construction and interpretation of flow nets. Elastic equilibrium, stress distribution, consolidation theories and settlement. 3 lec.

F; Y; 1972.

573 Soil Mechanics II (3)

Prereq: 572. (winter). Shearing strength. Plastic equilibrium, bearing capacity, lateral soil pressures and slope stability. 3 lec.

W; Y; 1973.

574 Advanced Soil Mechanics Laboratory (1)

Prereq: 572, 573. (spring). Techniques of soil mechanics measurements, shear tests, pore pressure, volume change. Consolidation, permeability and capillarity; model tests. 3 lab.

Sp; Y; 1973.

575 Advanced Foundation Engineering (3)

Prereq: 572, 573. (spring). Substructure analysis and design to meet various soil conditions. Settlements and bearing capacity analysis of various types of foundations and retaining structures. Case studies. 3 lec.

Sp; Y; 1973.

576 Soil Stabilization (4)

Prereq: perm. (fall). Engineering, geological and pedological soil classification systems. Mineralogy of clay minerals and clay-water systems; requirements for and factors affecting soil stability. Methods and mechanisms of soil stabilization; design and testing stabilized soils. 3 lec, 3 lab.

F; Y; 1972.

582 Paving Materials and Mixtures (3)

Prereq: perm. (winter). Types, constituents, chemical behavior, tests, specifications and uses of bituminous materials, Portland cements and aggregates in pavements. Design and manufacture of paving mixtures and construction of pavements. 2 lec, 3 lab.

W; Y; 1973.

583 Principles of Pavement Design (3)

Prereq: perm. (spring). Fundamentals of wheel loads and stresses in pavements. Properties in pavement components and design tests. Design methods and evaluation. 3 lec.

Sp; Y; 1973.

590 Special Investigations (1-5)

Prereq: perm. Special investigations or problems not covered by formal courses and not requiring a thesis.

Staff; F, W, Sp, Su; Y; 1975.

694 Research (1-6)

Prereq: perm. For thesis.

695 Thesis (1-15)

Engineering, Electrical

Graduate study leading to both the master's degree and the doctorate is offered in electrical engineering. Prospective students for these degrees should have completed the requirements for a baccalaureate degree with a major in electrical engineering. Students who lack such preparation are expected to make up deficiencies in addition to the normal graduate program of courses.

Courses in related fields may be included in the graduate program, as for example, chemistry, physics, mathematics and other branches of engineering. The graduate program of study is individually planned for each student after a careful review of his or her experience and education.

505 Semiconductor Principles (3)

Simplified 1-dimensional band theory of solids. Valence and conduction band occupancy from Fermi-Dirac statistics. Hole conduction and doping. Derivation of PN junction volt-amp-temperature characteristic. DC and AC characteristics of junction transistors derived from fundamentals.

Smith; W; D.

506 Advanced Electronic Circuits I (3)

Prereq: perm. (fall) Multistage amplifiers; feedback; stability and oscillation; operational amplifiers; linear analog systems.

Gilfert; F; Y; 1975-76.

507 Advanced Electronic Circuits II (3)

Prereq: perm. (winter) Digital electronics and instruments: arithmetic functions; coding and decoding; memories; counters; registers; A/D and D/A conversion. Nonlinear analog systems: comparators, function generation, logarithmic amplifiers.

Gilfert; W; Y; 1975-76.

508 Advanced Electronic Circuits III (3)

Prereq: 506, 507. (spring) Solid-state communications circuitry. Receiver principles and design; stability and gain considerations. Transmitter and modulator principles and design; power gain, high frequency matching networks.

Gilfert; Sp; Y; 1974-75.

509 Solid State Instrument Design (3)

Prereq: perm. Electronic instruments and instrument subassemblies including amplifiers, waveform generators, oscilloscopes, TVMs, etc., using various solid state devices, such as diodes, transistors, unijunctions, FETs and integrated circuits. Term paper exploring latest development on selected topic presented and defended by student.

Staff; D; 1970-71.

511 Network Synthesis I (3)

Prereq: perm. (fall). Theory of network design. Positive real functions, synthesis of general passive 1-ports approximation, parts of network functions.

W. K. Chen; F; Y; 1975-76.

512 Network Synthesis II (3)

Prereq: 511. (winter). Continuation of 511. Properties of 2-port functions, realization of 2-ports with 2 kinds of elements, insertion-loss synthesis, approximation, filter design.

W. K. Chen; W; A; 1974-75.

513 Network Synthesis III (3)

Prereq: 511 and 512. (spring). Theory and design of active networks. Topics such as active nonreciprocal network elements, synthesis of active RC 1-ports, synthesis of 2-ports containing R, C and negative resistors, synthesis of active RC networks with controlled sources and design of negative-resistance amplifiers.

W. K. Chen; Sp; A; 1974-75.

525 Automatic Control I (3)

Prereq: perm. (fall). Formulation of linear models for lumped-parameter physical systems, fundamental principles of closed-loop control, signal flow graphs, Routh-Hurwitz criteria; Root locus method, Bode plots; introduction to control system using Root locus and Bode plots. Special problem required.

Raju; F; Y; 1975.

526 Automatic Control II (3)

Prereq: 525 or perm. (winter) Nyquist stability criterion, Nichols charts, cascade and feedback compensation, frequency domain performance spe-

cifications, minor loop design. Special problem required.

Raju; W; Y; 1975.

527 Automatic Control III (3)

Prereq: 526 or perm. (spring) Sampled-data systems, Z-transforms, sampled data system design using digital compensators; carrier control systems; state-space concepts, designing of control systems using state variable feedback. Special problem required.

Raju; Sp; Y; 1975.

530 Theory of Measurements (3)

Prereq: perm. Dynamics of D.C. instruments, dynamics of A.C. instruments, null measurement techniques; statistical errors, mechanical and magnetic measurements. Assignments for high precision laboratory measurements and error analysis. Special assigned topics for report.

Staff; D.

540 Microwave Theory and Devices (3)

Prereq: perm. (fall). Generation and transmission of electromagnetic energy above 30 MHz, discussion of klystrons, magnetrons, solid-state sources, waveguides and resonators including lab demonstration and experiments.

H. Chen; D.

541 Antennas (3)

Prereq: perm. (winter). Theory of radiating structures, analysis and synthesis of arrays, impedance, radiation patterns, gains and discussion of selected practical examples.

H. Chen; D.

542 Radar and Aircraft Navigation Systems (3)

Prereq: perm. Radar system fundamentals, detection problems, antenna considerations, propagation effects, displays. Discussion of aircraft radio navigation systems including OMEGA, VOR, instrument landing systems and other practical electronic systems associated with aviation.

McFarland; Sp.

543 Electromagnetics I (3)

Prereq: perm. (winter). Mathematical review of vector operations in Cartesian and curvilinear coordinates. Solution of wave equation in Cartesian coordinates and application to wave reflection from interfaces between general media. Decomposition of wave solutions into TE, TM and TEM waves, with application to waveguides and transmission lines.

H. Chen; W; Y; 1975.

550 Control of Electrical Machinery (3)

Prereq: perm. Magnetic and electronic motor controllers including study of control theory and application to given problems.

Selleck.

551 Symmetrical Components (3)

Prereq: perm. (fall). Circuits analysis by symmetrical components, representation of unbalanced polyphase currents and voltages by component symmetrical sets, solutions of faults on power systems, unbalanced operation of power equipment, single phase induction motor analysis.

Staff; F; Y; 1975-76.

552 Power Transmission (3)

Prereq: perm. (fall). Economic and electrical principles of electrical power lines, mechanical principles of transmission line design.

Selleck; F.

553 Power Distribution (3)

Prereq: perm. (spring). Fault current calculations and automatic fault isolation on a coordinated distribution system, study of relays, reclosers, sectionalizers and fuse coordination, load and voltage studies of distribution, radial and network systems.

Selleck; Sp.

554 Electrical Design (3)

Prereq: perm. Design relationship of electrical machinery, including design of machine and determining of its performance.

Selleck.

555 Central Station Design (3)

Prereq: perm. Application of economic principles to problems of loading, load sharing and design of electrical power central stations. Detailed cost analysis of specified problem required.

Selleck.

55B Power System Stability Studies (3)

Prereq: perm. (spring). Problems pertaining to stability of large power systems, both synchronous and asynchronous loadings, maximum use of digital computer techniques and matrix algebra. Each student will present paper on individually assigned problems.
Staff: D.

560 Hybrid Computation and Digital Simulation (3)

Solutions of problems on analog digital computers and on analog computers with programmable logic. Digital simulation languages. Solutions of engineering problems by digital simulation.
Klock.

561 Digital Systems I (3)

(fall). Postulates and fundamental theorems of Boolean algebra; algebraic and map methods for design of combinational logic and simple sequential circuits; logic minimization methods; introduction to system design using shift registers, counters, etc.
Klock; F.

562 Digital Systems II (3)

Prereq: 561. (winter). Basic concepts from theory of finite-state machines; analysis and synthesis of sequential circuits; study of state assignment; synchronous and asynchronous machines; system design using integrated circuit registers, counters, etc.
Klock; W.

563 Digital Systems III (3)

Prereq: 562. (spring). Basic partition theory for sequential machine design. Synthesis of machines using ROMs and RAMs. Introduction to computer organization and design including selection of an instruction set, definition of functional characteristics of subsystems, and implementation of control logic.
Klock; Sp.

570 Communication Engineering (3)

Prereq: perm. (fall). Unified approach to communications stressing principles common to all transmission systems. Review of Fourier series. Fourier integral and complex frequency techniques with emphasis on communication networks, time response and convolution, measurement of information, amplitude modulation (double and single sideband techniques), frequency modulation, sampling theory, pulse modulation systems, fundamentals of random signal theory and its application to communication systems, noise and its effect on conventional modulation systems; noise figure, noise suppression techniques and other related topics.
Eisman; F; Y; 1975-76.

571 Statistical Analysis (3)

Prereq: perm. (winter). Analysis of engineering problems using probabilistic and statistical concepts: probability, discrete and continuous random variables, distribution functions, means, moments, characteristic functions, statistical independence, correlation, estimation and applications to engineering problems.
Eisman; W; Y; 1975-76.

572 Random Signals in Linear Systems (3)

Prereq: perm. (spring). Introduction to random electrical signals and noise. Autocorrelation, cross-correlation, power spectra, Nth law detectors, matched filters, detection of signals in noise, optimum receivers, Bayes estimators.
Eisman; Sp; Y; 1974-75.

58R Analysis of Engineering Problems (3)

Prereq: perm. Basic philosophy, methodology and viewpoint developed for solution determination. Comparison of applicability of empirical and theoretical analytical techniques to both linear and nonlinear situations. Characterization via mathematical models utilized for problem synthesis. Trade-off studies as practical technique for parameter value selection and influence-effect relationships.
Staff: D.

590 Special Topics (1-6)

Prereq: perm. Provides structure whereby students and faculty may study current topics or topics of special interest before formal courses have been established for these areas.
Staff: F, W, Sp, Y; 1975-76.

590A Space Communications (3)

Prereq: perm. Communications links with examples taken from space applications. Includes considerations of data encoding, modulation technique, antenna gains, space loss, system noise and demodulation techniques.
Staff: D.

590H Propagation of Radio Waves (3)

Prereq: perm. Review of fundamentals of electromagnetic waves, ground wave propagation, surface wave, wave propagation in ferrites, properties of ionosphere and sky-wave propagation.
H. Chen; D.

590I Introduction to Plasma Dynamics (3)

Prereq: perm. Review of electromagnetic theory, motion of charged particles in given electromagnetic fields. Magneto-ionic theory, propagation and excitation of waves in plasma.
H. Chen; D; 1970.

590U Small Microprocessor Systems (3)

Prereq: 507. (spring). Introduction to microprocessor capabilities and limitations. Timing considerations, essential storage, interfacing to controlled plant. Examples of microprocessor control of small plants.
Gillett; Sp.

590W Mini and Micro Computers I (3)

Prereq: perm. (fall). Organization of several mini-computer and microcomputer systems. Theory and application of assemblers, loaders, etc. Numerous control and data acquisition problems programmed in assembly language on existing computers. Applications in wide range of areas studied.
Klock; F.

590X Mini and Micro Computers II (3)

Prereq: 590W. (winter). Continuation of 590W.
Klock; W.

623 Nonlinear Analytical Techniques (3)

Prereq: perm. Dynamic systems-use and limitations of phase plane portraits in characterization of nonlinear components and nonlinear activation. Nonlinear phenomena and classification of singularities. Role of forcing function. Solutions found through methods of residues and variation of parameters. Selection process as means for decision making in problem solution; influence of selected criteria. Applications to networks, controlled systems and optimal control systems. Problems and techniques of Poincaré, Liénard and others. Systems with analytical solutions. Linearization techniques and error-tolerance determination.
Staff: Sp; 1975.

643 Electromagnetics II (3)

Prereq: 543. (spring) Duality, equivalence principle, induction theorem, Green's functions, radiation in terms of retarded current and applications. Plane, cylindrical and spherical wave functions.
H. Chen; Sp; Y; 1976.

646 Electromagnetics III (3)

Prereq: 645. Wave propagation in anisotropic medium; special theory of relativity; electrodynamics of moving media; perturbational and variational techniques.
H. Chen; D; 1970.

660 Digital Circuitry (3)

Prereq: 563. Physical theory of bipolar and MOS integrated circuits; study of properties of TTL, MOS, CMOS and ECL circuits; dynamic and static semiconductor memories; design of integrated circuit chips; system design using LSI modules.
Klock; Sp; Y; 1975.

674 Information Transmission (3)

Prereq: 571. Definition of measure of information and study of its properties, efficient representation of discrete message sources, communication channels and their capacity, encoding and decoding of data for transmission over noisy channels and evaluation of bounds to probability of decoding errors, and algebraic theory of error correcting codes.
Staff: D.

675 Introduction to Plasma Dynamics (3)

Prereq: 543. Particle orbit theory, magneto-ionic theory, waves in cold plasmas, waves in warm plasmas.
H. Chen; D; 1967.

681 Research in Electrical Engineering (1-6)

Prereq: perm.
Staff: F, W, Sp, Su; Y; 1975-76.

695 Thesis (1-9)

Prereq: perm.
Staff: F, W, Sp, Su; Y; 1975-76.

698 Seminar (1-4)

Staff: F, W, Sp, Su; Y; 1975.

710 Advanced Combinational Circuits (3)

Prereq: perm. (fall). Unilateral and bilateral iterative networks; Boolean matrices for gate and contact networks; computer algorithms for minimization of functions; techniques for fault detection and isolation; other selected topics.
Klock; F; Y; 1974.

711 Advanced Sequential Circuits (3)

Prereq: perm. (winter). Decomposition theory for series, parallel, etc., decompositions; theory and applications of regular expressions for design; machine realization using shift registers; selected topics.
Klock; W; Y; 1974.

712 Automata Theory (3)

Prereq: perm. (spring). Fundamental concepts of automata theory; Turing machines, push-down automata; relations between automata theory and mathematical linguistics.
Klock; Sp; A; 1974.

716 Linear Network Theory I (3)

Provides background for other graduate courses. Topics such as elementary network topology; general formulation of loop, node and cut equations; the indefinite admittance and impedance matrices, state equations and their solutions; passivity, activity, conservativity and stability of active multiports and their characterizations. (Recommended for all graduate students).
W. K. Chen; F; Y; 1975-76.

717 Linear Network Theory II (3)

Prereq: perm. Complex normalized scattering matrix. Broadband limitations on network performance. Theory of broadband matching and design of equalizers. Theory of negative-resistance amplifiers.
W. K. Chen; W; Y; 1975-76.

718 Network Topology (3)

Prereq: perm. Fundamental concepts in linear graph theory, matrix representation of linear graphs, properties of incidence, circuit and cut-set matrices, concept of duality, derivation of topological formulae for linear lumped networks, application to analysis and synthesis of communication nets.
W. K. Chen; Sp; Y; 1975-76.

721 Multiport Synthesis (3)

Prereq: 511, 512. Positive-real and bounded-real matrices. Synthesis of lossless n-ports. Synthesis of n-ports with prescribed immittance matrix. Scattering synthesis.
W. K. Chen; D; 1971-72.

771 Fundamentals of Statistical Communication Theory (3)

Prereq: 571. (fall) Analysis of nondeterministic signals in linear systems with specific applications to communication systems. Topics include waveform estimation, matched filters, optimum systems, smoothing and prediction, Nth law detectors, digital communication systems, sampling quantizers, encoding, channel error, detection, etc.
Eisman; F; D; 1975-76.

772 Modulations Systems (3)

Prereq: 771. Performance of familiar communication systems within context of statistical concepts and random noise representations, correlation and spectral analysis and narrow band noise, linear modulation, synchronous demodulation, suppressed carrier techniques, angle modulation, noise in FM, threshold effects in FM, frequency division, multiplexing, correlation detection, coherent binary signaling, coherent phase-reversal keying, differential phase-shift keying, optimum detection and decision theory. Individual problems associated with state of art techniques.
Eisman; Sp; D.

773 Digital Detection Systems (3)

Prereq: 771 or perm. Detection of digital signals using decision theory concepts, conventional and unconventional communication systems, channel characteristics, Hilbert transforms, signal space

representations, optimum detection of known signals, detection of signals with finite number of unknown parameters, estimation, estimator-correlator receivers, adaptive type receivers and sub-optimum receivers. Techniques and problems from current literature.

Staff; W; D; 1975-76.

776 Advanced Plasma Dynamics I (3)

Prereq: 675. Distribution function and Boltzmann equation, transport equation, BV equation and relaxation model. Landau damping, kinetic treatment of waves in plasmas.

H. Chen; D.

777 Advanced Plasma Dynamics II (3)

Prereq: 675, 776. Continuation of 776. Boltzmann collision term, Chapman-Enskog expansion, BBKY equations for plasma, confinement and stability.

H. Chen; D.

778 Boundary Value Problems I (3)

Prereq: perm. Partial differential equations derived from engineering problems. Topics include linear spaces and operators, eigenvalue and eigenfunctions, Sturm-Liouville systems and orthogonal functions, separation of variables in special coordinate systems, generalized Fourier series and integrals.

H. Chen; W; D; 1975.

779 Boundary Value Problems II (3)

Prereq: perm. Techniques for solving boundary value problems, Green's functions and generalized functions, special methods making use of symmetries, images, inversion and conformal mapping; introduction to integral equation method.

H. Chen; D; 1971.

790 State Variable Analysis (3)

Prereq: perm. Provides background for other courses. Introduction to state variable vector-matrix differential (difference) equations for linear and nonlinear continuous (discrete) systems, processes, etc., solution of state variable equations; flow graphs; transformations; stability concepts; controllability and observability; analysis of nonlinear systems using state variable methods.

Raju; W; A; 1975.

791 Control System Optimization I (3)

Prereq: 790. Extrema of functions of several variables, constrained extrema problems, linear programming; variational calculus, Euler-Lagrange equations and transversality conditions; maximum principle of Pontryagin, Hamilton-Jacobi theory. Design of optimal linear regulators and tracking systems with respect to quadratic performance criteria; matrix Riccati equation approach. Application of theory to minimum time and minimum fuel problems; design of time- and fuel-optimal systems using switch curves and switch surfaces.

Raju; W; A; 1975.

792 Control System Optimization II (3)

Prereq: 791. Continuation of 791. Sensitivity in optimal systems; computational algorithms for solution of optimization problems. Introduction to Wiener-Kalman-Bucy filter theory. Differential game theory.

Raju; Sp; A; 1975.

793 Stability Theory (3)

Prereq: 790. Definition of equilibrium points; phase plane analysis; limitations of linear analysis. Concepts of stability, asymptotic stability, global asymptotic stability. Use of Liapunov functions and contraction arguments in establishing stability criteria. Methods of Lure, Lagrange, Popov, Sandbery, etc. Determination of stability of linear time invariant, linear time varying and nonlinear systems.

Raju; W; A; 1973.

794 Adaptive, Learning and Self-Organizing Systems (3)

Prereq: perm. Fundamental concepts underlying adaptive, learning and self-organizing systems. System identification, use of gradient methods, peak-holding systems, application of adaptive principle to autopilot and communication systems. Pattern recognition, discriminant functions, training in classifiers, statistical classification, feature selection and ordering, nonparametric procedure, Bayesian learning, stochastic approximation.

Raju; Sp; A; 1973.

795 Stochastic Control Systems (3)

Prereq: 790. Characterization of random processes, identification of signals, parameter and random variable estimation, stochastic optimal control problem, dynamics of stochastic systems, stochastic finite-state machines, stochastic discrete-time systems, stochastic continuous-time systems, Markov systems.

Staff; D.

819 Theory of Graphs I (3)

Prereq: Math 510. Fundamental topics of graph theory such as connectedness, path problems, leaves and lobes, axiom of choice, matching theorems, directed graphs, acyclic graphs and partial order.

W. K. Chen; D.

820 Theory of Graphs II (3)

Prereq: 819. Continuation of 819. Binary relations and Galois correspondences, connecting paths, dominating sets, covering sets and independent sets, chromatic graphs and groups and graphs.

W. K. Chen; D.

844 Advanced Microwave Networks (3)

Prereq: perm. Analytical study of waveguide junctions. Impedance, admittance and scattering matrices formulations for waveguide junctions, eigenvalue problems, symmetrical devices and directional coupler, group theory and its applications to waveguide junctions.

H. Chen; D.

845 Computer Solutions of Electromagnetic Problems (3)

Prereq: perm. General techniques of solutions suitable for digital computation and their application to electromagnetic field problems of practical interest, matrix formulation of field problems, wire antennas and scatterers, generalized network parameters, Galerkins method, Rayleigh-Ritz variational method.

H. Chen; D.

846 Special Topics in Engineering Mathematics (3)

Prereq: perm. Concentrated study of advanced mathematical techniques in analytical solution of engineering problems. Selected topics from recent and/or classical literature of applied mathematics, as integral equations, variational and perturbation methods, applications of the theory of a complex variable, the theory of distributions. Introduction to functional analysis.

H. Chen; D; 1973.

881 Doctoral Research (1-9)

Prereq: perm.

Staff; F, W, Sp, Su; Y; 1975-76.

890 Special Topics in Electrical Engineering (3)

Current developments in electrical engineering. Selected topics offered yearly. May be taken for repetitive and variable credit.

Staff; F, W, Sp; Y; 1975-76.

895 Dissertation (1-9)

Prereq: perm.

Staff; F, W, Sp, Su; Y; 1975-76.

Engineering, Industrial and Systems

The master of science program in industrial and systems engineering is fitted to the goals of the individual student. Course concentrations are available in human factors engineering, computer applications, engineering management, industrial systems and operations research.

Descriptions for each of the five areas of concentration are available upon request. These descriptions outline the required core courses, electives and suggested courses outside the department. The specific program is designed by the student and his or her advisor.

For the thesis option the usual minimum requirements are 39 or more quarter hours of coursework and up to six quarter hours of thesis research credit totaling 45 quarter hours. At least 27 quarter hours must be selected from graduate-level courses in industrial and systems engineering.

The student may follow a nonthesis option. The minimum requirements for this program are 51 hours of coursework including a three-credit-hour research project requiring independent study (694) and a written report. For the nonthesis option, at least 33 quarter hours must be selected from graduate level courses in industrial and systems engineering. A student following the nonthesis option is required to file a program of study for the approval of the departmental nonthesis advisor before the end of the first quarter of study.

Applicants with baccalaureate degrees from accredited engineering colleges and other related fields will be considered for admission to the MS program in industrial and systems engineering. Students are expected to have had a course in statistics based on calculus, and a course in computer programming (FORTRAN) or the equivalent. Applicants entering the industrial and systems engineering program without adequate background may be required to take undergraduate work including ISE 500.

Certain undergraduate-graduate courses are required in the undergraduate industrial and systems engineering program. Up to 12 hours of these courses may be taken for graduate credit subject to advisor approval. They are: 506, 520, 532, 533, 535, 540, 541 and 548. Up to three hours of independent study may be taken for degree credit in addition to 694 or 695. All resident graduate students are expected to register for three successive quarters of 630 (Seminar) beginning with their first quarter in residence.

500 Principles of Industrial Engineering (3)

Prereq: perm. Survey covering traditional industrial engineering concepts and practices such as engineering economy, plant location, plant layout, work/methods, work measurement, production control systems (including CPM and PERT), inventory control and quality control. (Not for graduate credit for ISE majors.)

F; Y.

504 Applied Engineering Statistics (3)

Prereq: calculus or perm. Introduction to efficient methods for data collection and analysis. Application of basic statistical tests, techniques and experimental design concepts to engineering and science data problem areas. 3 lec.

F, Sp; Y.

505 Engineering Statistics I (3)

Prereq: calculus. Application of probability and statistics to evaluation of experimental data. Introduction to testing of hypotheses, confidence intervals and statistical prediction. (Not for graduate credit for ISE majors.) 3 lec.

F; Y.

506 Engineering Statistics II (3)

Prereq: 405 or perm. Evaluation of numerous probability distribution functions for discrete and continuous random variables as useful experimental engineering tools. Multiple linear and nonlinear regression models for experimental systems. 3 lec.

W; Y.

507 Design and Analysis of Experiments (3)

Prereq: course in probability and statistics or perm. Design and analysis of engineering experiments approached from linear statistical model point of view. Blocking designs, full and fractional factorial designs, analysis of variance and introduction to response surface methodology. 3 lec.

Sp; Y.

510 Decision Theory I (3)

Prereq: course in probability and statistics or perm. Introduction to decision theory and its applications. Modern utility theory and its application to decision making under risk is emphasized. Examples selected from inventory, bidding, purchasing, maintenance and investment policies.

D.

511 Decision Theory II (3)

Prereq: course in probability and statistics or perm. Basic theory and applications of Bayesian decision theory. Emphasis on applications covering a wide range of both profit and nonprofit oriented institutions in society.

D.

515 Introduction to Systems Engineering (3)

Prereq: perm. Systems engineering techniques and related topics. 3 lec.
F, D.

517 Analytical Foundations of Industrial and Systems Engineering (3)

Prereq: calculus and course in probability and statistics or perm. Special analytical techniques introduced for solution of complex industrial and systems engineering problems. Calculus of finite differences, Fourier analysis and use of transform techniques in linear system analysis; probability implications of transforms.
F, Y.

520 Analysis of Engineering Situations I (3)

Prereq: calculus through differential equations or perm. Basic philosophy, methodology and viewpoint for problem definition and solution. Comparison of tools, mathematical and empirical, for problems with bounding conditions, role of engineering judgement. 3 lec.
D.

521 Analysis of Engineering Situations II (3)

Prereq: 520 or perm. Continuation of 520. See 520 for description.
D.

524 Nonlinear Analytical Techniques (3)

Prereq: 520, 521 or perm. Nonlinear phenomena and classification of singularities. Role of forcing function. Solutions found through methods of residues and variation of parameters. Applications to adaptive controlled systems and optimal controlled systems and other organized structures. 3 lec.
D.

525 Probabilistic System Analysis (4)

Prereq: calculus and course in probability and statistics or perm. Applied statistical techniques in selective design and evaluation of physical and nonphysical systems. Tolerances, errors and variations in parameters of systems viewed in terms of probabilistic distributions and effects on output parameters. 3 lec, 2 lab.
D.

527 Digital Computer Systems I (3)

Prereq: computer programming course. Overview of digital computer systems. Programming, storage organization and search; number representations, conversions and elementary arithmetic operations; addressing and instruction sequencing; multiprogramming, multiprocessing and real-time systems.
D.

528 Digital Computer Systems II (3)

Prereq: perm. Continuation of 527. See 527 for description.
D.

530 Engineering Economy (3)

Prereq: perm. Economic analysis of engineering projects. Time value of money, cost estimation, equipment comparison, breakeven analysis, economic lot size and replacement analysis. (Not for graduate credit for ISE majors). 3 lec.
F, Sp, Y.

531 Advanced Engineering Economy (3)

Prereq: perm. Risk explicitly treated by consideration of uncertainties of cost estimates, forecasting and other economic variables. Construction and use of mathematical models for analysis of engineering alternatives. 3 lec.
D.

532 Inventory and Manufacturing Control I (3)

Prereq: credit or concurrent registration in probability and statistics or perm. Design of inventory and manufacturing control systems. Forecasting: continuous and periodic review inventory systems. Relationship between production schedules and inventory. Production scheduling systems, sequencing models, dispatching rules. 3 lec.
F, Y.

533 Industrial Computer Applications (3)

Prereq: FORTRAN and course in probability and statistics or perm. Simulation of industrial problems utilizing digital computers and data processing equipment. Stress on user-oriented programs and advanced format techniques. Applications include use of library routines. 2 lec, 2 lab.
W.

534 Network Analysis and Scheduling (3)

Prereq: credit or concurrent registration in probability and statistics or perm. Engineering project planning using such techniques as PERT and critical path methods. 3 lec.
F, Y.

535 Quality Control and Reliability (3)

Prereq: course in probability and statistics or perm. Industrial techniques for process control, acceptance sampling by attributes and by variables, inspection and test methods and reliability measurement and improvement. Operating characteristics and design of sampling plans. 3 lec.
W, Y.

536 Project Management (3)

Development and utilization of network techniques to schedule activities, develop financial budgets, allocate resources and control progress and costs of practical projects. (Not for ISE graduate majors). 3 lec.
F, W, Sp, Y.

537 Modeling and Analysis of Computer Systems (5)

Prereq: perm. Models of batch, time-sharing or real-time computer systems. Simulation, queuing, scheduling methods and probability applied. Co-listed with CS 505A.
D.

538 Modeling and Analysis of Computer Systems (5)

Prereq: 537. Continuation of 537. See 537 for description.
D.

539 Information Systems Engineering (3)

Prereq: computer programming course. Design of management information systems. Introduction to PL language, data structuring and information systems analysis and documentation, storage, etc.
W, Y.

540 Industrial Plant Design (3)

Prereq: course in methods engineering or perm. Design process for manufacturing systems. Process planning, equipment selection, jig and fixture design, plant capacity analysis, production scheduling, inventory control, line balancing, plant layout. 2 lec, 2 lab.
W, Y.

541 Introduction to Operations Research (3)

Prereq: perm. Introduction to basic methodology of operations research in solution of industrial, engineering and other problems. Application and mathematical structure of such topics as: decision theory, linear programming, dynamic programming, replacement models and queuing theory.
F.

542 Inventory and Manufacturing Control II (3)

Prereq: perm. Branch and bound scheduling algorithms, horizon planning, control of integrated production, inventory and work-force systems, linear decision rules. 3 lec.
W, Y.

543 Work Design in a Technological Society (3)

Prereq: perm. Exploration of interaction between industrial and systems engineering and labor as an institution. Arbitration, technological change and work organization. 3 lec.
Y.

544 Applications of Mathematical Programming (3)

Prereq: course in linear algebra or perm. Linear systems techniques for optimum solution of industrial, engineering and other problems. Topics include assignment and transportation problems, simplex method, revised simplex, dual problem and sensitivity analysis. 3 lec.
W, Sp, Y.

545 Systems Design (3)

Prereq: perm. Individual or small-group system design project.
D.

547 Elements of Behavior Systems Engineering (3)

Prereq: perm. Elements of behavior systems analysis, prediction, design and control. Properties of stimulus-response reflex as behavior system input-output function examined. 3 lec.
D.

548 Man-Machine Systems (3)

Prereq: perm. Role of human operator as subsystem in complex man-machine system. Optimum design principles for information, displays, equipment controls, workplace environments and life-support systems are examined. 3 lec.
Sp.

549 Behavior Systems Management in Engineering Industry (3)

Prereq: perm. Principles of behavior systems engineering applied to problems of engineering management. Behavior systems analysis of engineering organization structure and function with respect to problems of prediction, design and control of engineering outputs. 3 lec.
D.

551 Behavior Systems Engineering Design (3)

Prereq: perm. Advanced problems in behavioral engineering design such as man-machine systems, crew design problems, organization structure analysis, communication and management. Models of approach and behavior system design solutions are examined. Individual design project. 3 lec.
D.

552 Behavior Systems Engineering Research (3)

Prereq: perm. Research methods and findings in behavior systems research. Individual research project on selected behavior systems engineering problem. 3 lec.
D.

553 Behavioral Communication Systems in Engineering Industry (3)

Prereq: perm. Behavioral systems analysis of transmission of meaning in communications systems. Schematic analysis of stimulus-response, input-output operations in information transmittal. 3 lec.
D.

554 Advanced Problems in Man-Machine Systems (3)

Prereq: perm. Analytic and design consideration of complex man-machine systems with application to industrial, social or governmental systems.
D.

555 Synthetic Behavior Systems (3)

Prereq: perm. Application of principles of bio-behavior systems analysis to design of physical behavior systems; introduction to robotics. Elements and principles of bio-behavior systems including input-output transfer functions and behavior design principles. Applications for design of physical behavior systems, i.e., synthetic behavior system. 3 lec.
D.

556 Creativity in Engineering Problem-Solving (3)

Prereq: perm. Behavior systems analysis used to generate an analytic-descriptive approach to creative performance applied to industrial and systems engineering problems. Individual projects. 3 lec.
D.

557 Engineering Decision Processes: Behavior Systems Analysis (3)

Prereq: perm. Engineering decision processes with reference to elements and principles of behavior systems engineering. Examples drawn from engineering industry. 3 lec.
D.

559 Individual Research Problems in Behavior Systems Engineering (3)

Prereq: perm.
D.

561 Fundamentals of Queuing Theory (3)

Prereq: course in probability or perm. Queuing theory and its applications. Single and multiple channels with varying system parameters and queue disciplines. Both steady state and transient conditions are investigated.
W, Y.

562 Fundamentals of Dynamic Programming (3)

Prereq: course in probability or perm. Theory and application of classical calculus of variation emphasizing Lagrange multipliers and the Kuhn-Tucker conditions, dynamic programming and Markov processes. 3 lec.
Sp, Y.

563 Fundamentals of Non-Linear Programming (3)

Prereq: 544 or perm. Theory and application of integer programming, convex programming, geometric programming, gradient search methods.
D.

564 Reliability in Design (3)

Prereq: calculus and course in probability and statistics or perm. Application of reliability theory to equipment or facilities design. Design of testing systems and procedures for effective reliability measurement and prediction. Analysis of over-all system reliability as function of component reliability. 3 lec.
D.

565 Information Systems Design (3)

Prereq: perm. Design and control of information flow in organizations. Information storage and retrieval by data processing equipment. Students practice design of information systems in lab. 3 lec.
D.

566 Industrial Sampling Methodology and Design (3)

Prereq: 506 or perm. Designing simple random, systematic and stratified sampling plans for estimating means, variances, correlations or confidence intervals. Applications in sampling for determining parameters in operations research models, for reliability and quality control inspection, or for work sampling and time standards.
D.

567 Environmental Systems Engineering (3)

Prereq: perm. Overview, analysis and design of selected environmental systems. Problems selected from area of conversion, resource engineering, communication, bio-engineering, transportation, pollution, engineering of large structures and engineering of community systems. 3 lec.
D.

570 Fundamentals of Systems Theory and Methodology I (3)

Prereq: 520, 521 or perm. Topics in systems philosophy, methodology and viewpoint and their application to practical systems, systems design process, criteria selection and evaluation; experiments for determining system parameters, interdependencies and constraints. 3 lec.
D.

571 Fundamentals of Systems Theory and Methodology II (3)

Prereq: 570. Continuation of 570. See 570 for description.
D.

572 Optimization of Complex Engineering Systems I (3)

Prereq: 570 or 571. New techniques for design and evaluation of large-scale complex engineering systems with digital computer studies. Techniques for optimizing information management and energy conversion systems. Examples from modern weapon and aerospace systems. 3 lec.
D.

573 Optimization of Complex Engineering Systems II (3)

Prereq: 572. Continuation of 572. See 572 for description.
D.

583 Work Design (3)

Prereq: course in probability and statistics or perm. Design of work systems and measurement of work. Models of work systems, schematic models and charting techniques, work sampling, time study, predetermined time systems, standard data and related industrial tools.
Sp; Y.

589 Special Investigations (1-6)

Prereq: perm.
F, W, Sp, Su; Y.

590 Advanced Problems in Computer Application (1-6)

Prereq: perm. Special investigations of advanced systems and industrial engineering problems involving use of digital or analog computers.
F, W, Sp, Su; Y.

630 Seminar in Industrial and Systems Engineering (1)

Current topics and new developments in industrial and systems engineering.
F, W, Sp; Y.

632 Seminar in the Control of Inventory and Manufacturing Systems (3)

Prereq: 532 or perm. Critical review of current literature on inventory and manufacturing control. Students present selected papers and class participates in constructive critique. Related research within department included. Representatives of industry invited to present their control systems for critique.
Sp; Y.

635 Seminar in Systems Applications (3)

Prereq: 515, 570, 571 or perm. Topics of general current interest and/or particular student interest. In-depth discussion of topics from lecture courses or current research including techniques for selection and decision-making.
Sp; D.

637 Seminar in Computer Systems (1-3)

Prereq: perm. Analytic examination of selected topics in computer system planning, design and evaluation. Students present selected papers or their own research and class participates in constructive discussion. Representatives from government, industry or other educational institutions invited to lead discussions on topics of current interest.
D.

640 Advanced Topics in Industrial and Systems Engineering (1-6)

Prereq: perm. Readings and lectures.
D.

670 Seminar on Occupational Safety and Health (3)

Prereq: perm. Occupational safety and health treated historically outlining development of Workman's Compensation and industrial safety up to most recent federal legislation, 1970 Safety and Health Act. Focus given to specific health and safety problems with a view toward developing engineering and human factors controls.
D.

672 Seminar on Transportation Systems (4)

Prereq: perm. Systems analysis and design of transportation systems. Current topics with emphasis on industrial and systems engineering approaches. Topic concentration varies from qtr to qtr.
D.

681 Research (1-12)

Prereq: perm.
F, W, Sp, Su; Y.

694 Nonthesis Independent Research (3)

Prereq: perm.
F, W, Sp, Su; Y.

695 Thesis (1-12)

F, W, Sp, Su; Y.

Engineering, Mechanical

Graduate areas of concentration include kinematics, vibrations, machine design, engineering mechanics, automatic control, energy conversion, thermal machinery, heat transfer and propulsion. Courses which contribute to contemporary engineering practice may be drawn from related areas.

The minimum requirements are 33 quarter credits of coursework and a thesis covering a research or an advanced design project. Students with prior professional experience in which research or design proficiency has been clearly established may substitute additional coursework in lieu of the thesis. In such cases, the minimum requirement is 45 quarter credits of coursework, including a report on a special investigation involving three to six quarter credits of effort. For the thesis program the major field should include at least 20 quarter credits. For the nonthesis program 27 credits in the major field are required.

Applicants with a BS in engineering or science are considered for admission. All applicants must demonstrate proficiency in basic undergraduate mechanical engineering subjects. Applicants not holding degrees from accredited engineering colleges may be required to make up deficiencies prescribed by the department and to submit a satisfactory score on the Graduate Record Examination.

neering colleges may be required to make up deficiencies prescribed by the department and to submit a satisfactory score on the Graduate Record Examination.

502 Fluid Mechanics and Controls (3)

Prereq: perm. Fluid mechanics associated with fluid control, survey of flow control devices, fluid amplifier principles, digital logic, analysis and synthesis of fluid control systems.
Lawrence; Sp; D; 1974.

504 Machine Design II (4)

Prereq: 403. Morphology and anatomy of engineering design. Inventiveness, engineering analysis, optimization, statistics and decision making. Engineering design project.
Chen; F; Y; 1974.

506 Advanced Kinematics (4)

Prereq: perm, 310. Analysis and synthesis of planar and three-dimensional mechanisms using classical and modern analytical approaches. Structural synthesis of mechanisms, dimensional synthesis of linkages for function generation, path generation and for rigid-body guidance. Applications of matrix methods, optimization techniques and computer solutions.
Chen; W; Y; 1975.

507 Fundamentals of Nuclear Engineering (4)

Prereq: perm. Nuclear engineering, including nuclear reactions, radiation detection and measurement, reactor control, radiation shielding, effects of radiation on materials, uses of radioactive materials.
Lawrence; W; Y; 1974.

508 Nonlinear Problems in Dynamics (3)

Prereq: perm. Qualitative and numerical study of mathematics and physics of nonlinear systems. Formulations of nonlinear engineering problems, solutions techniques and stability analysis.
Chen; Sp; Y; 1974.

509 Advanced Machine Dynamics (3)

Prereq: perm. Theoretical analysis and applications of dynamical aspects and problems in machines and their components.
Chen; W; Y; 1972.

510 Advanced Vibrations Analysis (4)

Prereq: 592, perm. Vibrations of multi-degree-of-freedom, lumped, parameter systems and of continuous systems such as bars, beams and plates; numerical methods of solution; use of Rayleigh-Ritz and Galerkin procedures.
Adams; F; D; 1971.

511 Cryogenic and Vacuum Fundamentals (4)

Prereq: perm. (arranged). Production of low temperatures and pressures, molecular transport, diffusion through solids, radiation heat transfer, high-performance insulators, low-temperature heat transfer, 2-phase flow, superconductivity.
Lawrence; D.

512 Heat Transfer (5)

Prereq: 321, CE 340. (fall). Basic concepts of conduction in 1 or more dimensions, steady and transient modes. Radiation, dimensional analysis, fundamentals of convection in various modes, heat exchanger design. 5 lec. Graduate credit for non-majors mechanical engineering only.
Staff; Sp; Y.

513 Conduction and Radiation Heat Transfer (4)

Prereq: perm. Advanced analytical treatment of conduction and radiation heat transfer. Boundary value problems, orthogonal expansions, moving heat sources, multi-dimensional problems with varying boundary conditions, finite difference analysis, conformal transformations, radiation network matrix analysis, diffuse-specular exchange, Monte Carlo techniques, etc.
Lawrence; F; Y; 1973.

514 Convection Heat Transfer (3)

Prereq: CE 546 or perm. Convection heat transfer. Hydrodynamic and thermal boundary layers in forced and free convection. 3 lec.
Staff; Sp; Y; 1974.

515 Thermal Stress Analysis (3)

Prereq: CE 528, perm. (spring). Thermal stresses developed in machine and structural components. Procedures for solving stress problems associated with elevated temperatures in such components as tubes, rods and plates as encountered in nuclear

reactors, engines and airplane and missile structures.

Adams; Sp; Y; 1970.

517 Design of Thermal Systems (4)

Prereq: perm. Design of systems in which thermodynamics and heat and mass transfer are major considerations. Emphasis on total design approach incorporating economic considerations and optimization techniques. Typical systems include power, propulsion, environmental, cryogenic.

Laurence; F; Y; 1974

518 Mechanical Engineering Experimentation (1)

Prereq: grad rank. (fall). Instruction in experimental procedure and experience in designing and executing laboratory experiments. Students plan and execute their own experiments to acquire answers to assigned problems. Variety of areas covered including control systems, energy conversion, fluid flow, heat transfer, motion measurements, stress-strain. Instructional guidance provided by entire mechanical engineering staff. Provides familiarity with variety of instrumentation and procedures. 3-qr sequence with experimental subjects phased with prerequisites.

Staff; F; Y; 1973.

519 Mechanical Engineering Experimentation (1)

Prereq: grad rank. (winter). Continuation of 518. See 518 for description.

Staff; W; Y; 1974.

520 Mechanical Engineering Experimentation (1)

Prereq: grad rank. (spring). Continuation of 519. See 518 for description.

Staff; Sp; Y; 1974.

524 Gas Dynamics I (3)

Prereq: perm. CE 340. (winter). 1- and 2-dimensional gas dynamics-isentropic flow, flow with heat transfer, friction, shocks, generalized 1-dimensional flow. Applications to propulsion systems. 3 lec.

Staff; W; Y; 1974.

525 Vehicle Propulsion Systems (4)

Prereq: perm. 424. Applications of basic engineering disciplines to design and analysis of ground vehicle propulsion systems. Emphasis on new concepts. Extensive use of computer modeling. Term report required.

Beale; Sp; D; 1971.

540 Direct Energy Conversion (4)

Prereq: perm. Coupled flows, irreversible thermodynamics, behavior of ionized gases, general principles of unconventional thermodynamics cycles, thermoelectricity, thermionics MHD, fuel cells.

Laurence; Sp; D; 1975

584 Problems in Thermal Machinery I (3)

Prereq: perm. good academic record. Supervised research in thermal machines. Individual work on experimental or analytical project involving current problems. Students should elect 2-term sequence to allow adequate time for completion of meaningful project.

Beale; F; Y; 1974

585 Problems in Thermal Machinery II (3)

Prereq: perm. (winter). Continuation of 584. See 584 for description.

Beale; W; Y; 1974.

586 Problems in Thermal Machinery III (3)

Prereq: perm. (spring). Continuation of 584 and 585. See 584 for description.

Beale; Sp; Y; 1975.

589 Special Investigations (1-6)

Prereq: perm.

Staff; F, W, Sp; D; 1974

591 Mechanical Vibrations I (3)

Prereq: perm. Characteristic phenomena of mechanical vibrations encountered in machines and structures (of 1-degree-of-freedom) in their quantitative investigation. Simple harmonic motion; free, transient and forced vibrations; damping effects; demonstrations; computer applications.

Adams; F; Y; 1975

592 Mechanical Vibrations II (4)

Prereq: 591. Application of matrix methods; 2-degree-of-freedom systems; lumped mass systems with several degrees of freedom, and methods for normal mode determination. 3 lec, 1 computation session.

Adams; W; Y; 1976

593 Lubrication and Bearing Analysis (3)

Prereq: perm. Concepts of boundary, hydrostatic and hydrodynamic lubrication and their application to different bearing geometries. McKee and McKee, Boyd and Ramond's methods of bearing design and their optimization. Solid lubrication, porous and gas bearings. Lubrication and wear in living and artificial human joints and human hip-joint prosthesis.

Hicks; Sp; Y

594 Advanced Machine Design (3)

Prereq: perm. 403. Advanced considerations in design and analysis of machine members, pressure vessels, impact loading, thermal stress analysis, fatigue in metals. 3 lec.

Adams; Sp; Y; 1976.

595 Introduction to Kinetic Theory and Statistical Thermodynamics (4)

Prereq: perm. (fall). Kinetic theory, classical and quantum statistical mechanics with application to engineering devices. 3 lec.

Laurence; D.

596 Experimental Methods in Design (3)

Investigation and evaluation of experimental methods used to obtain design and performance data. Techniques of photoelasticity, strain measurements and vibration measurement.

Adams; W; 1974.

597 Methods of Engineering Analysis I (4)

Prereq: perm. Math 340. Methods of analyzing equilibrium and eigenvalue problems in mechanical engineering and engineering mechanics; matrix methods, variational methods, numerical methods.

Adams; F; Y; 1975.

681 Research (1-6)

Staff; F, W, Sp, Su; D; 1974.

695 Thesis (1-6)

Prereq: perm.

Staff; F, W, Sp, Su; D; 1974.

ENGLISH

English Language and Literature

The Department of English Language and Literature offers graduate courses in the areas of English and American literature, the English language, creative writing and comparative literature. Programs leading to the degrees of master of arts in English and doctor of philosophy in English are available in each of these areas.

MASTER'S PROGRAM

Programs are offered leading to the master of arts degree in English in the areas of English and American literature, English language and creative writing.

Admission

Application must be made to the Graduate College. The applicant should present at least 27 quarter hours (18 semester hours) of superior work on the undergraduate level in English language and literature and submit evidence of having completed at least two years of college work in a foreign language. Applicants who have not had two years of a foreign language, but who otherwise have outstanding qualifications for graduate study, may apply. Applications for admission will also be considered from students who have had extensive training in academic fields closely related to English. All applicants should arrange for letters of recommendation from three professors with whom they studied on the undergraduate level to be sent to the chairman of the graduate committee in English.

All applicants for admission take the Graduate Record Examination (including the advanced test in literature) and submit their scores.

If a student is admitted to one of the master's programs without having taken the GRE, he or she must take this test the first time it is offered at Ohio University after he or she has enrolled.

Applicants for the creative writing program must also submit manuscripts or off-prints representative of their work to the director of the creative writing program.

General Requirements

All master's programs require the following:

Minimum Hours of Graduate Credit

The master of arts degree requires a minimum of 60 quarter hours of credit. A graduate student with no regular teaching responsibilities can accumulate 60 hours credit in four quarters of full-time study.

Foreign Language

A reading knowledge of one foreign language is required for the master's. Any candidate who has successfully completed the first two years of a foreign language (approved by the department) at the college level will be considered to have satisfied the foreign language requirement. Any candidate who cannot so satisfy the requirement must demonstrate his or her ability to read a foreign language (approved by his or her advisor) by passing either a departmental reading examination in that language or two quarters of the graduate reading course in that language. The reading course carries no credit towards graduation.

Teaching

Each candidate must enroll in Eng 591 and will be required to teach under supervision.

Programs

English and American Literature

This program emphasizes the historical-critical study of English and American literature. The normal course of study will include one quarter of bibliography and methods (five hours), a two-quarter proseminar sequence (winter and spring), a three-course minor, and 30 hours of additional coursework. A student may choose to write a thesis instead of taking a proseminar sequence, but this is not recommended. Courses will be selected so that a student's program of study will cover all broad areas of English and American literature.

In his or her final quarter of graduate study the candidate must pass a written major examination based on a general reading list in English and American literature.

Creative Writing

This program differs from the preceding historical-critical program in that the student substitutes three creative writing seminars (Eng 690, 691, 692) for the minor and presents in lieu of a thesis a book-length manuscript worthy of publication.

English Language

This program is designed for students who wish to prepare themselves to teach college courses in the history and the structure of the English language and in the literature of the medieval period. Students in this program will meet the following requirements:

Sixty hours of coursework, including Eng 501A,B,C, 502, 503, 509B, 591 and 593; Ling 559 and 661, and a two-quarter proseminar sequence in the English language or in medieval literature.

A comprehensive examination which covers the history and structure of the English language and major works in the medieval period of English literature.

Individual programs to meet these requirements will be planned in cooperation with the student's advisor.

DOCTORAL PROGRAM

Programs are offered leading to the doctor of philosophy degree in English and American literature, English language and in English with concentration in comparative literature. Doctoral study is divided into two phases: the doctoral applicancy and the doctoral candidacy.

Admission

After receiving the master's degree, the student may apply to the graduate committee of the department for admission to advanced graduate study. The application will be considered in light of (1) the student's academic performance in the master's program, particularly in the proseminar or on his or her thesis; (2) performance on the major examination; (3) the recommendation of his or her major professor or professors; (4) the evidence he or she has given of becoming a successful teacher of English.

The student who has taken the master's degree at a school other than Ohio University and who desires to be admitted to one of the doctoral programs must apply for admission to the Graduate College. In addition to official transcripts showing the total undergraduate and graduate academic record, the application for admission must include his or her scores on the Graduate Record Examination and letters of recommendation from at least three professors with whom the student studied in his or her master's program.

Programs

English and American Literature

This program emphasizes the historical-critical study of English and American literature, permitting a concentration in an area of special interest, the limits of the area to be defined by the student's advisory committee and approved by the graduate committee. Minimum requirements for this program are found in the section below headed Doctoral Applicancy.

English Language

A student wishing to enter this program must hold an MA in the English language or its equivalent. The general requirements are as follows:

All students take Eng 504, 531 and 607; Ling 671, and a combination of at least three doctoral seminars to include work in both the English language and medieval literature.

In consultation with his or her advisor the student will select additional courses in language, literature and linguistics.

Concentration in Comparative Literature

Students with MA degrees in English may be admitted to this program. Students in this program will designate comparative literature as their area of concentration and will enroll in the three-quarter comparative literature seminar sequence. All must meet their language requirement by studying one language intensively and by taking a graduate minor (at least 12 hours) in the literature of that language. In addition, a sound reading knowledge of a second foreign language and participation in the translation workshop are re-

quired. In most other respects, students concentrating in comparative literature will meet the general requirements for the PhD in English.

Doctoral Applicancy

If accepted for advanced graduate study, the student becomes a doctoral applicant. Toward the end of the first year of study as a doctoral applicant, his or her progress will be reviewed by the English department graduate committee. The student will be advised at that time whether he or she should continue in the program. The student will remain an applicant until the following requirements have been fulfilled:

English 501A,B,C

Seminars: The doctoral applicant will take a minimum of two quarters of doctoral seminars.

The graduate minor: (a) three courses in another department (philosophy, history, modern languages, etc.) or (b) a minor in English language, to be completed by taking Eng 503 and either 502 or 504, in addition to the required 501A,B,C; or a minor in literary criticism, to be fulfilled by taking Eng 536 and 537, and Eng 763 and 765, or a minor in modern languages, to be fulfilled by taking three graduate-level courses in a foreign language. Under certain circumstances, with the approval of the advisor and the graduate committee, the foreign language minor may be fulfilled in classical languages.

Foreign language requirements: Knowledge of one foreign language and its literature, to be fulfilled by taking a 500-level course in the literature of a particular language, taught in that language. A grade of A or B is required. For students in certain areas of study the advisor and the graduate committee may recommend more than one language. The language course taken may count toward a minor in a foreign language.

Other coursework as called for by the candidate's individual course of study. English 593 is required of all graduate students.

Two written examinations and an oral, one written examination over English and American literature and one over the area of specialization. These examinations are based on reading lists available to all students at the beginning of their doctoral studies.

A satisfactory prospectus for the dissertation.

Doctoral Candidacy

In this final phase of his or her work, the candidate will complete his or her dissertation. The graduate committee recommends that the dissertation be limited to approximately 150 pages whenever possible.

In lieu of the traditional oral examination the candidate will deliver a public lecture on some aspect of his or her dissertation and will lead a discussion upon his or her work.

501A English Language (5)

(fall). Historical survey of sounds, inflections, syntax and vocabulary of Old and Middle English. 501A covers Old English.
Roe; F; Y; 1975-76.

501B English Language (5)

Prereq: 501A. (winter). Continuation of 501A. 501B covers Anglo-Saxon and Early Middle English.
Roe; W; Y; 1975-76.

501C English Language (5)

Prereq: 501B. (spring). Continuation of 501A and B. 501C covers Middle English.
Roe; Sp; Y; 1975-76.

502 Old English Poetry (5)

Prereq: 1st and 2nd qtr of 501 or equiv. (spring, as needed). Translation and criticism of Old English verse.
Staff; D; 1975-76.

503 English Language II (5)

Prereq: 501 or perm. (spring). Sounds, inflections, syntax and vocabulary of English from 1500 to present. Emphasis upon language of Shakespeare.
Staff; Sp; A; 1974-75.

504 American English (5)

Phonology and grammar-syntax of American English from a linguistic point of view; historical and geographical development.
A; 1975-76.

505 Old Norse (5)

(as needed). Basic Old Norse grammar with introductory readings.
Staff; D; 1972-73.

506 Icelandic Saga (5)

Prereq: 505. (as needed). Reading in Old Icelandic literature in original language.
Staff; D; 1972-73.

511 18th Century Novel (5)

(fall). Development of novel form in 18th century. Defoe through Jane Austen.
Roth; F; A.

512 19th Century Novel (5)

(winter). Critical analysis of novels by Dickens, Thackeray, Trollope and the Brontës, Eliot, Meredith and Hardy.
Staff; W; A; 1975-76.

515 19th Century Prose (nonfiction) (5)

Studies in nonfiction prose, mainly the personal essay, literary criticism, social criticism, biography.
Staff; D; 1975-76.

524 Shakespeare (5)

(spring). Intensive study in specific critical and historical problems.
Staff; Sp; A; 1974-75.

531 Medieval Drama (to 1590) (5)

Prereq: 569A or equiv. English drama from beginning through Christopher Marlowe.
Staff; F; A; 1974-75.

532 Renaissance Drama (1590-1642) (5)

English drama (excluding Shakespeare) from Ben Jonson to closing of theaters.
Staff; W; A; 1974-75.

536 History of Criticism (5)

(fall). Critical thought and practice.
Staff; F; A; 1975-76.

537 History of Criticism (5)

(winter). Continuation of 536.
Staff; W; A; 1974-75.

540 Studies in Comparative Literature (5)

Literary movements, themes or genres. Different topic offered each quarter, e.g., symbolist and surrealist movement, baroque in western literature, concept of realism or romanticism, grotesque in literature. Note: Two of the three comparative literature courses (540-541-542) are offered annually. Numbers may vary.
Staff; F; Y; 1975-76.

541 Studies in Comparative Literature (5)

Continuation of 540. See 540 for description.
Staff; W; 1974-75.

542 Studies in Comparative Literature (5)

Continuation of 540 and 541. See 540 for description.
Staff; Sp; 1974-75.

561 Colloquium (5)

(fall). Specific interdisciplinary problems to be assigned each quarter.
Staff; F; Y; 1975-76.

562 Colloquium (5)

(winter). Continuation of 561. See 561 for description.
Staff; W; Y; 1975-76.

563 Colloquium (5)

(spring). Continuation of 561 and 562. See 561 for description.
Staff; Sp; Y; 1975-76.

564 English Phonetics (3)

Speech sounds of English with special attention to articulatory training for foreign teachers of English.

Staff: D.

569 Studies in Literature (5)

Advanced study of a period or of some aspect of a period (a movement, a genre, author, etc.) of English or American literature. Designed to supplement undergraduate training and to provide intensified training in areas of concentration. Following areas scheduled regularly: (A) Medieval language and literature, (B) Age of Chaucer, (C) 16th Century, (D) Spenser, (E) 17th Century, (F) Milton, (G) Restoration, (H) Earlier 18th Century, (I) Later 18th Century, (J) Romantic poets: Blake, Wordsworth, Coleridge, (K) Romantic poets: Byron, Shelley, Keats, (L) Major Victorian poets, (M) Minor Victorian poets, (N) 20th Century, (O) American literature to Civil War, (P) American literature, Civil War to WWI, (Q) Afro-American literature.

Staff: F, W, Sp, Su; A, Y, D; 1975-76.

591 Problems in Teaching College English (1-5)

Introduction to methods of teaching literature and writing, with inquiries into various critical approaches, remediation, rhetorical theory, teaching aids, evaluation, counselling and coordination of student and institutional needs.

Staff: F; Y; 1975-76.

593 Bibliography and Methods (5)

(winter). Enumerative and descriptive bibliography; methods of criticism and scholarship.

Staff: W; Y; 1975-76.

601 Modern English Dialects (4)

Geographical distribution of American and Commonwealth English dialect features.

Staff: D; 1971-72.

609 Proseminar in English Language (5)

(spring). Research in structure and development of English language.

Staff: D; 1968-69.

640 Translation Workshop (1-5)

Prereq: perm; command of at least 1 foreign language. Intensive work in translating foreign literature, verse and prose, into English.

Schulte; F, W, Sp; Y; 1974-75.

641 Translation Workshop (1-5)

Prereq: perm; command of at least 1 foreign language. Continuation of 640. See 640 for description.

Schulte; W; Y; 1974-75.

642 Translation Workshop (1-5)

Prereq: perm; command of at least 1 foreign language. Continuation of 640 and 641. See 640 for description.

Schulte; Sp; 1974-75.

650 Proseminar in Literature (5)

(winter). 2 qtr study, research and writing program. Winter quarter devoted to comprehensive reading in subject matter area, investigation of nature of literary problems relevant to this area and selection of problems appropriate to graduate writing of papers comparable in scope to master's thesis or scholarly papers.

Staff: W, Y; 1975-76.

651 Proseminar in Literature (5)

Prereq: 650. (spring). Continuation of 650. See 650 for general description. 651 devoted to further research and writing of papers.

Staff: Sp, Y; 1975-76.

690 Creative Writing Seminar (5)

Prereq: 6 hrs of creative writing. Criticism of manuscripts and discussion of problems of form. Admission only in 1st qtr, except for unusual reason.

Staff: F, Y; 1975-76.

691 Creative Writing Seminar (5)

Prereq: 6 hrs of creative writing. Continuation of 690.

Staff: W; Y; 1975-76.

692 Creative Writing Seminar (5)

Prereq: 6 hrs of creative writing. Continuation of 690 and 691.

Staff: Sp; Y; 1975-76.

695 Thesis (5-10)

Staff: F, W, Sp, Su; Y; 1975-76.

701 Formal Stylistics (4)

Research on selected topics in formal characterization of texts.

Staff: D.

703 Seminar in English Language (5)

Research into selected problems of structure and development of English language.

Staff: D; 1969-70.

715 Theory of Teaching Literature (5)

Discussions of theoretical and practical problems of teaching literature in colleges and universities.

Staff: D; 1975-76.

724 Problems in Shakespeare (5)

Prereq: PhD applicancy. Intensive research in specific problems in area of Shakespeare criticism and scholarship.

Staff: D.

763 Stylistics (5)

Prereq: PhD applicancy. (winter). Problems in description and analysis of prose style, prosodic theory; literature and its writers.

Summers; W; Y; 1975-76.

765 Theory of Literature (5)

Prereq: PhD applicancy. (spring). Investigations into nature of literature and problems of practical literary criticism.

Staff: Sp; Y; 1975-76.

770 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. 3 1- or 2-qtr seminars customarily offered each yr in each of 7 areas. Seminars form sequence of independent units. In any particular yr, more than 3 seminars may be offered in same area (e.g., a sequence in early Renaissance and 1 in late Renaissance or a sequence in Romantic and 1 in Victorian). From 3 to 6 seminars may be offered in area, depending upon staff and upon student need.

Staff: F, W, Sp; D.

771 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 771 covers Renaissance.

Staff: F, W, Sp; D; 1975-76.

772 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 772 covers Restoration and 18th Century.

Staff: F, W, Sp; D; 1975-76.

773 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 773 covers 19th century.

Staff: F, W, Sp; D; 1975-76.

774 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 774 covers 20th century British and American.

Staff: F, W, Sp; D; 1975-76.

775 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 775 covers American literature.

Staff: F, W, Sp; D; 1975-76.

776 Seminar in Literature (5 or 10)

Prereq: PhD applicancy. See 770 for general description. 776 covers comparative literature.

Staff: F, W, Sp; D; 1975-76.

780 Special Studies Seminar (1-5)

Prereq: PhD applicancy or perm. Seminars in individual writers and individual works. Offered when (a) there is student demand and or (b) widely recognized specialist on staff.

Staff: F, W, Sp, Su; Y; 1975-76.

781 Research (1-15)

Covers period when student is doing necessary research for prospectus. Also used to cover special research courses (e.g., problems in editing, problems in historical research, etc.).

Staff: F, W, Sp, Su; Y; 1975-76.

782 Research (1-15)

Continuation of 781. See 781 for description.

Staff: F, W, Sp, Su; Y; 1975-76.

792 Problems in Teaching College English (1-5)

Colloquium for apprentice teachers designed to explore alternative approaches to classroom planning and presentation. Encourages exchange of ideas and problems among teachers; evaluation

methods, syllabi and texts; development of a sense of professionalism in teaching.

Staff: F, W, Sp, Su, Y; 1975-76.

895 Dissertation (1-15)

Staff: F, W, Sp, Su; Y; 1975-76.

FILM

Graduate work in the Department of Film leads to an MFA degree in film. The program is designed for those who have graduated in film or, uniquely, for those who come to film with extensive experience in another medium or discipline. Enrollment in the MFA program requires a major commitment to film, not necessarily prior achievement in film-making.

The department does not attempt to produce specialists headed for one particular kind of production activity. It is distinguished by its flexibility and by the wide variety of directions pursued by its students. Emphasis is on the development of an individual who is capable of most production skills and able to function in the medium in the same personal, direct manner that a painter or writer functions. Those who wish to concentrate in film scholarship follow a similar broad-based approach, gaining experience in production before going on to individualized study in film theory, criticism or history.

Film Department offices, screening rooms and editing facilities are located on the third floor of Lindley Hall on South Court Street. There are six fully equipped sound film editing rooms, a Steenbeck editing machine, six 16mm silent-film editing stations and eight 8mm editing stations. Several projectors, including a 16mm interlock projector, are available for student use. Equipment check-out inventory includes an Eclair NPR camera, Auricon 600 and Auricon 1200 cameras, a half-inch Sony VTR unit, seven Bell & Howell and five Bolex cameras (some with reflex viewing and motor). A large complement of lenses and lighting equipment is also in stock. An Acme-based animation stand with Mauer camera is available to students who pass a course in its usage. Motion picture sound facilities include three Nagra (III and IV) tape recorders, a variety of microphones and equipment for transfer and multi-channel mixing of 16mm magnetic stock.

The Ohio University Film Production Laboratory, professionally staffed and operated by the department, offers complete 16 mm and 8mm black and white processing, an optical printer and a 16mm color and black and white contact printer. Students can closely participate in all production stages of their film projects.

There is ample opportunity to view and study motion pictures in Athens. Two local theaters offer weekly classic matinees and midnight specials to supplement their feature schedules. IGL, a student-run film society allied with the department, has weekly screenings which offer a variety of motion pictures each quarter. The Fine Arts Library subscribes to 37 film periodicals and has over 2,000 volumes in its motion picture book collection. Special off-campus study arrangements are available for work with collections in major archives.

The Department of Film has its own staff, curriculum, facilities and budget. There are three full-time faculty members and one research associate. Due to the intimate nature of the program, graduate enrollment is restricted to fewer than 20 students.

Admission

Because certain courses offered only once yearly must be taken in sequence, admission to MFA studies in the Department of Film is limited

to fall enrollment only (exceptions may be made upon petition).

A minimum grade-point average of 2.5 for all undergraduate work and a bachelor's degree from an accredited institution are required for admission. The undergraduate degree may be in any field. Supporting documents normally required are a transcript of all undergraduate work, three letters of recommendation and a formal application with fee. In addition to these materials required by the Graduate College, the applicant should send the following items *directly to the department* by April 15 of the year of enrollment.

1. A written sample of the student's work. This need not be about film. The paper (or papers—more than one may be submitted if an applicant wishes to do so) will be evaluated through the potential shown for work in the department.
2. A representative film, videotape, portfolio of work in another medium, or other substantial representation of applicant's creative ability.
3. A short personal essay (500 words) on the applicant's educational goals, including how the student would relate his or her previous education and experience to his or her goals in the department.

Please note that these last three items, along with letters of recommendation, should be sent to the Department of Film, Lindley Hall, Ohio University, Athens, Ohio 45701. Application forms and transcripts should be sent to The Graduate College, Graduate Building, Ohio University, Athens, Ohio 45701. An application is not complete until all the above credentials have been submitted. It is the applicant's responsibility to ensure that all items are received by the specified deadline. Materials arriving after April 15 will be returned.

Because the department has many highly qualified applicants for its very limited number of openings, prospective students are *strongly* urged to come to Athens for an interview. Such visitation enables potential students to assess personnel and facilities of the department and facilitates a more comprehensive evaluation by the graduate committee. (Such personal interview eliminates the statement of purpose essay requirement listed above.)

Although the department furnishes equipment of every kind to students in motion picture courses, film makers must rely primarily on their own resources for financing of materials and outside services. Persons interested in graduate work are cautioned that this kind of production experience requires extra financial resources to meet extensive film-making expenses.

The department presently has limited graduate assistantships available which pay \$2,610 *per annum* plus partial fees. A few partial tuition scholarships are offered on a quarter-to-quarter basis. Assistantships and scholarships are normally not awarded to entering graduate students but only to persons who have been approved for MFA candidacy. On rare occasions, highly qualified students may receive assistantships during their first quarter, particularly if they have professional experience in motion picture production laboratory work or as motion picture equipment repair personnel.

The Graduate College Bulletin, Part I, General Information, contains details of other University scholarship and financial aid opportunities. In the past, film students have relied primarily on federal Work-Study and Direct Student Loan programs to meet educational and living expenses. Specific inquiries about financial aid programs should be addressed directly to the Office of Student Financial Aids, Chubb Hall, Ohio University, Athens, Ohio 45701. **IMPORTANT:** The dead-

line for receipt of Student Financial Aid Applications is April 15.

General Requirements

Major focus in the Department of Film is on individual work supplemented by group and formal class activity. A minimum of 90 quarter hours of graduate work (including 15 in art history and approximately 56 in film) are required. The full program usually takes two and a half years to complete.

Modification of these requirements may be made to accommodate the special needs or experience of a student. The awarding of an MFA degree is never automatic upon completion of 90 hours or upon any total period of time in residence. The following criteria are also used to evaluate a candidate's overall creative and scholarly achievement independent of his or her academic record.

1. Upon completion of the first full two quarters of residence, a graduate student's work will be evaluated prior to advancement to candidacy for the MFA degree. At this time the student is required to present at least one completed film and at least one completed scholarly paper about motion pictures.
2. After the first year and before approval for graduation, a candidate is required to take a comprehensive oral examination on basic academic and technical knowledge of motion pictures. The examination committee will consist of the department faculty. This oral examination will usually occur in the quarter immediately before graduation (with the exception of summer session).
3. Prior to graduation, a candidate will present a thesis showing of his or her work in a public situation in Athens. Students who pursue emphasis in film scholarship may substitute written theses. In each case, the candidate will defend his or her thesis work before an examining committee. The committee in this instance will consist of the department faculty augmented by one or two more Ohio University faculty members from other departments.

Students are allowed two efforts to pass each of these successive examinations. Failure twice at any stage of this evaluation process will result in denial of further enrollment as an MFA degree candidate.

561 Motion Picture Production I (5)
Prereq: perm. (fall). Professional workshop in 16mm techniques; elementary film structuring; camera and lighting; editing; sound; laboratory preparation. Intensive exercise as individual filmmaker in production of short motion pictures. *Not open to those who have had similar undergraduate courses.*

Prince; F; Y; 1976.

562 Motion Picture Production II (5)
Prereq: 561 and perm. (winter). Continuation of 561.

Prince; W; Y; 1976.

563 Motion Picture Production III (5)
Prereq: 562 and perm. (spring). Continuation of 562.

Prince; Sp; Y; 1976.

601 Theory and Criticism of Film I (4)
Prereq: perm. (fall). Formal principles and stylistic fundamentals of film, including modes and methods of film criticism. Examination of major works of motion picture theory and criticism. Weekly screenings.

Semsel; F; Y; 1976.

602 Theory and Criticism of Film II (4)
Prereq: 601 or perm. (winter). Continuation of 601.

Semsel; W; Y; 1976.

603 Theory and Criticism of Film III (4)
Prereq: 602 or perm. (spring). Continuation of 602.

Semsel; Sp; Y; 1976.

633 Seminar in Film I (4)
Prereq: perm. (fall). Introduction to historical and other modes of film scholarship. Weekly screenings.

Semsel; F; Y; 1976.

634 Seminar in Film II (4)
Prereq: perm. (winter). Advanced film scholarship, usually focusing on problems in early film history. Weekly screenings.

Lehman; W; Y; 1976.

635 Seminar in Film III (4)
Prereq: perm. (spring). Advanced topics in film scholarship. Weekly screenings.

Lehman; Sp; Y; 1976.

661 Film Structure I (3)
Prereq: perm. (fall). Analysis of structure in narrative and other kinds of motion pictures. Editing organization of film materials. Preparation of scripts.

Lehman; F; Y; 1976.

662 Film Structure II (3)
Prereq: perm. (winter). Continuation of 661.

Lehman; W; Y; 1976.

671 Film Topics Seminar (1-5)
Prereq: perm. (fall). Investigation of selected motion picture topics announced in advance of registration. Orientation may be either scholarly, critical or production workshop. Topics and credit hours vary qtr to qtr. Topics pursued in recent years were Animation, Laboratory Techniques, Image of Self in Film, Film and Dance, Film and Poetry and Advanced Sync-Sound Production.

Lehman; W; Y; 1976.

672 Film Topics Seminar (1-5)
Prereq: perm. (winter). See 671 for description.

Lehman; W; Y; 1976.

673 Film Topics Seminar (1-5)
Prereq: perm. (spring). See 671 for description.

Lehman; Sp; Y; 1976.

682 Independent Study (1-15)
Prereq: perm. Advanced individual creative or scholarly work in film. May be repeated.

Prince; F, W, Sp, Su; Y; 1976.

780 Individual Problems (1-5)
Prereq: perm. Preparation and production of a motion picture. Student must have skills necessary for completion of project. May be repeated.

Prince; F, W, Sp, Su; Y; 1976.

781 Individual Readings (1-5)
Prereq: perm. Readings in works related to motion pictures. Selections by student in consultation with faculty member.

Lehman; F, W, Sp, Su; Y; 1976.

895S Film Studio Thesis (1-10)
2nd yr.
Lehman; F, W, Sp, Su; Y; 1976.

895W Film Written Thesis (1-10)
2nd yr.
Lehman; F, W, Sp, Su; Y; 1976.

FINANCE

525 Managerial Finance (4)
Role of financial management in business enterprise; financial analysis; planning needs for short-term and long-term funds; planning for profits; capital budgeting; internal management of working capital and income; raising funds to finance growth of business enterprises.

Staff; F, W, Sp, Su; A; 1974-75.

525W Managerial Finance (3)
Role of financial management in business enterprise; financial analysis; planning needs for short-term and long-term funds; planning for profits; capital budgeting; internal management of working capital and income; raising funds to finance growth of business enterprises. Accelerated workshop course for MBA students.

Staff; Su; D; 1975.

- 527 Banking and the Financial System (4)**
Functioning of commercial banking system and other financial institutions. Flow of funds and interest price movements in money and capital markets. Supply of loanable funds and demand for funds in mortgage loan market, consumer credit market, corporate securities markets and markets for government securities and municipal obligations. Consideration of effects on financial markets of Federal Reserve and Treasury policies.
Staff: F, Sp, Y; 1974-75
- 528 Management of Financial Institutions (4)**
Analysis of objectives, functions, practices and problems of financial institutions as viewed by management of these institutions.
Staff: Sp, Y; 1974-75
- 532 Property and Casualty Insurance (4)**
Analysis of principal types of property and casualty insurance policies with respect to protection afforded policyholder, his or her obligations and cost of protection. Policies studied include fire and extended coverage, allied line, business interruption, inland marine, automobile, general liability, theft and bonds. Subjects of risk, insurance law and multiple-peril policies also covered.
Staff: W, Y; 1975
- 536 Life Insurance (4)**
Fundamental economics of life insurance. Principles and practices of life insurance, including types of contracts, group and industrial insurance and annuities.
Staff: W, Y; 1974-75
- 537 Personal and Business Insurance Planning (4)**
Consumer needs for all types of insurance; legal aspects and estate planning; risk management programs for business, including all forms of group insurance.
Staff: D; 1973-74
- 539 Insurance Regulations and Financial Management (4)**
Underwriting, reinsurance, financial analysis and relevant insurance statutes and regulations.
Staff: D
- 542 Security Analysis (4)**
Problems of selecting securities for various investment purposes. Industry structure, volume-price-cost relationships, management, financial position, terms of securities contracts and market price behavior are studied to determine attractiveness of securities. Portfolio construction considered.
Staff: Sp, A; 1974-75
- 545 Portfolio Management (4)**
Decision-making processes in management of individual and institutional securities portfolios. Theoretical foundations of portfolio selection and construction. Model-building and other criteria applicable to selection, risk-return tradeoffs, revision and evaluation of portfolio performance. Applications of computer technology and other quantitative techniques to different aspects of portfolio management.
Staff: Sp, Y; 1974-75
- 553 Real Estate Finance (4)**
Financial and investment analysis in purchase and sale of real properties, including single-family dwellings and income properties. Income and risk analysis in real estate investment. Instruments of real estate finance and institutional arrangements in mortgage markets. Government and mortgage markets. Flow of funds and credit conditions in mortgage markets.
Staff: D; 1973-74
- 555 International Finance (4)**
Problems in international finance. Financing international trade and other transactions, foreign exchange market and exchange rates, international payment system, foreign central banking and current development in international financial co-operations.
Staff: I, Y; 1974-75
- 561 Problems in Business Finance (4)**
Case studies of financial management in business enterprises. Planning, current and long-term financial needs, profit planning, allocation of funds, raising funds, dividend policies, expansion and combination, recapitalization and reorganization.
Staff: F, Sp, Y; 1974-75

- 563 Capital Allocation (4)**
Planning capital outlays, methods for ranking investment proposals, theories of financial structure and cost of capital and approaches to investment decisions under conditions of uncertainty.
Staff: W, A; 1974-75
- 565 Mathematical Analysis of Financial Decisions (4)**
Application of quantitative methods to financial management, with special emphasis on systems approach to evaluating proposed financial decisions.
Staff: D
- 620 Financial Management I (4)**
Finance function of business enterprises as viewed by executive responsible for procuring and utilizing funds. Case analyses include special problems in financial planning and control, working capital management, capital allocation, short- and long-term fund raising, dividend policies and financing expansion and combination.
Staff: D
- 621 Financial Management II (4)**
Analyses of financial problems of business firms with emphasis on recent theoretical and institutional developments in financial management and implications of financial decisions on economic behavior.
Staff: W, Y; 1973-74
- 622 Seminar in Problems of Business Finance (4)**
Prereq: 621. Specific aspects of financial management. Topics vary and depend on interests of seminar members. Discussions based on assigned reading and individual research papers.
Staff: D
- 625 Financial Decision-Making (4)**
Prereq: 525 or perm. Concepts, constructs and applications relevant to task of financial manager in dynamic environment.
Staff: W, Y; 1974-75
- 631 Seminar in Insurance (4)**
Current topics of significance in fields of life, health, property and liability insurance; discussion of assigned readings and individual research reports.
Staff:
- 650 Seminar in Money and Capital Markets (4)**
Analysis of conditions in money and capital markets as they affect business decisions; flow of funds in the United States, structures of interest rates, role of monetary policy and its effects on financial markets; principal instruments and intermediaries in money and capital markets; analysis of important segments of financial markets.
Staff: D
- 655 Seminar in International Finance (4)**
Financing and control of foreign operations and international transactions, portfolio and direct investments abroad, institutions and instruments of foreign money and capital markets.
Staff: D
- 690 Research (3, 4 or 5)**
Methodology, analysis of data and preparation of research findings.
Staff: D
- 691 Seminar (3, 4 or 5)**
Selected topics of current interest.
Staff: F, W, Sp, D; 1973-74
- 693 Readings (1-15)**
Readings on topics selected by student in consultation with faculty member.
Staff: F, W, Sp, Su; D; 1974-75
- 695 Thesis (1-15)**
Staff: F, W, Sp; 1974-75
- 697 Independent Research (1-15)**
Research under direction of faculty member.
Staff: F, W, Sp, Su; D; 1974-75
- 698 Internship (1-15)**
Staff: F, W, Sp, Y; 1974-75

FOREIGN LANGUAGES AND LITERATURES

African and Asian Languages

Germanic, Romance and Slavic Languages

Greek and Latin Languages

Chinese (Asian)

- 571 Elementary Chinese I (3)**
fall. Intensive oral study of Chinese.
Staff: F, Y; 1976
- 572 Elementary Chinese II (3)**
Prereq: 571 or equiv. winter. Intensive oral study of Chinese.
Staff: W, Y; 1976
- 573 Elementary Chinese III (3)**
Prereq: 572 or equiv. spring. Intensive oral study of Chinese.
Staff: Sp, Y; 1976
- 574 Intermediate Chinese I (3)**
Prereq: 573 or equiv. fall. Intensive study of spoken and written Chinese.
Staff: F, Y; 1976
- 575 Intermediate Chinese II (3)**
Prereq: 574 or equiv. winter. Intensive study of spoken and written Chinese.
Staff: W, Y; 1976
- 576 Intermediate Chinese III (3)**
Prereq: 575 or equiv. spring. Intensive study of spoken and written Chinese.
Staff: Sp, Y; 1976
- 577 Advanced Chinese I (3)**
Prereq: 576 or equiv. fall. Intensive study of spoken and written Chinese.
Staff: F, Y; 1976
- 578 Advanced Chinese II (3)**
Prereq: 577 or equiv. winter. Intensive study of spoken and written Chinese.
Staff: W, Y; 1976
- 579 Advanced Chinese III (3)**
Prereq: 578 or equiv. spring. Intensive study of spoken and written Chinese.
Staff: Sp, Y; 1976

Hausa (African)

- 571 Elementary Hausa I (3)**
fall. Intensive oral study of Hausa.
Staff: F, Y; 1976
- 572 Elementary Hausa II (3)**
Prereq: 571 or equiv. winter. Intensive oral study of Hausa.
Staff: W, Y; 1976
- 573 Elementary Hausa III (3)**
Prereq: 572 or equiv. spring. Intensive oral study of Hausa.
Staff: Sp, Y; 1976
- 574 Intermediate Hausa I (3)**
Prereq: 573 or equiv. fall. Intensive study of spoken and written Hausa.
Staff: F, Y; 1976
- 575 Intermediate Hausa II (3)**
Prereq: 574 or equiv. winter. Intensive study of written and spoken Hausa.
Staff: W, Y; 1976
- 576 Intermediate Hausa III (3)**
Prereq: 575 or equiv. spring. Intensive study of spoken and written Hausa.
Staff: Sp, Y; 1976
- 577 Advanced Hausa I (3)**
Prereq: 576 or equiv. fall. Intensive study of spoken and written Hausa.
Staff: F, Y; 1976
- 578 Advanced Hausa II (3)**
Prereq: 577 or equiv. winter. Intensive study of spoken and written Hausa.
Staff: W, Y; 1976

- 579 **Advanced Hausa III (3)**
Prereq: 578 or equiv. (spring). Intensive study of spoken and written Hausa.
Staff; Sp; Y; 1976.

Indonesian/Malay (Asian)

- 571 **Elementary Indonesian/Malay I (3)**
(fall). Intensive oral study of Indonesian/Malay.
Staff; F; Y; 1976.
- 572 **Elementary Indonesian/Malay II (3)**
Prereq: 571 or equiv. (winter). Intensive oral study of Indonesian/Malay.
Staff; W; Y; 1976.
- 573 **Elementary Indonesian/Malay III (3)**
Prereq: 572 or equiv. (spring). Intensive oral study of Indonesian/Malay.
Staff; Sp; Y; 1976.
- 574 **Intermediate Indonesian/Malay I (3)**
Prereq: 573 or equiv. (fall). Intensive study of written and spoken Indonesian/Malay.
Staff; F; Y; 1976.
- 575 **Intermediate Indonesian/Malay II (3)**
Prereq: 574 or equiv. (winter). Intensive study of spoken and written Indonesian/Malay.
Staff; W; Y; 1976.
- 576 **Intermediate Indonesian/Malay III (3)**
Prereq: 575 or equiv. (spring). Intensive study of spoken and written Indonesian/Malay.
Staff; Sp; Y; 1976.
- 577 **Advanced Indonesian/Malay I (3)**
Prereq: 576 or equiv. (fall). Intensive study of spoken or written Indonesian/Malay.
Staff; F; Y; 1976.
- 578 **Advanced Indonesian/Malay II (3)**
Prereq: 577 or equiv. (winter). Intensive study of spoken and written Indonesian/Malay.
Staff; W; Y; 1976.
- 579 **Advanced Indonesian/Malay III (3)**
Prereq: 578 or equiv. (spring). Intensive study of spoken and written Indonesian/Malay.
Staff; Sp; Y; 1976.

Swahili (African)

- 571 **Elementary Swahili I (3)**
(fall). Intensive oral study of Swahili.
Staff; F; Y; 1976.
- 572 **Elementary Swahili II (3)**
Prereq: 571 or equiv. (winter). Intensive oral study of Swahili.
Staff; W; Y; 1976.
- 573 **Elementary Swahili III (3)**
Prereq: 572 or equiv. (spring). Intensive oral study of Swahili.
Staff; Sp; Y; 1976.
- 574 **Intermediate Swahili I (3)**
Prereq: 573 or equiv. (fall). Intensive study of written and spoken Swahili.
Staff; F; Y; 1976.
- 575 **Intermediate Swahili II (3)**
Prereq: 574 or equiv. (winter). Intensive study of spoken and written Swahili.
Staff; W; Y; 1976.
- 576 **Intermediate Swahili III (3)**
Prereq: 575 or equiv. (spring). Intensive study of spoken and written Swahili.
Staff; Sp; Y; 1976.
- 577 **Advanced Swahili I (3)**
Prereq: 576 or equiv. (fall). Intensive study of spoken and written Swahili.
Staff; F; Y; 1976.
- 578 **Advanced Swahili II (3)**
Prereq: 577 or equiv. (winter). Intensive study of spoken and written Swahili.
Staff; W; Y; 1976.
- 579 **Advanced Swahili III (3)**
Prereq: 578 or equiv. (spring). Intensive study of spoken and written Swahili.
Staff; Sp; Y; 1976.

Southeast Asian Literature in Translation

- 540 **Traditional Literature of Southeast Asia (3)**
Survey of traditional literature of Southeast Asia in translation.
Staff; W; Y; 1975.
- 545 **Modern Literature of Southeast Asia (3)**
Survey of modern literature of Southeast Asia in translation.
Staff; Sp; Y; 1975.

Germanic, Romance and Slavic Languages

- *French
- *German
- Italian
- Portuguese
- Russian
- *Spanish

*Master's degree program offered.

To begin a graduate major in a modern foreign language, the student must have completed the requirements for the bachelor of arts major or the equivalent in that language.

To begin work in a second area of modern languages, the student must have completed a minimum of six hours of undergraduate work in the second language at the 300 level or the equivalent.

Students are urged to travel and study abroad, especially during the summer quarter.

Master's Program with Thesis

For this program the student must demonstrate a reading knowledge of a second modern language or Latin, to be shown either by passing 213 or 241 in a modern foreign language, Lat 213 or equivalent intermediate course with at least a grade of B; passing the examination given for 613 (ETS Foreign Language Tests) or by passing a literature course in the foreign language. In lieu of a foreign language, a student may present two courses in linguistics which are to be in addition to the 11 graduate courses required for the MA degree. The courses required for the MA with thesis are one seminar; any two courses from 537, 539, 541, 557; at least four courses in literature at the 500 level and above, which should be distributed so that the student has exposure to each area tested on the comprehensive examination, and the thesis. Teaching assistants are required to register for one hour of 698 the first three quarters they are on financial appointment. The student must pass a comprehensive examination, based on coursework and a reading list.

Nonthesis Program

The student must show a reading knowledge as outlined under the MA with thesis program. The courses required for the nonthesis option are the same as those for the MA with thesis with two exceptions: in lieu of writing a thesis the student takes two seminars instead of one. A German major presents one of his or her seminar papers to his or her examination committee (three weeks before the written comprehensive exams). Teaching assistants are required to register for one hour of 698 the first three quarters they are on financial appointment. The student must pass a comprehensive examination, based on coursework and a reading list.

It is also possible to earn a master of education degree with certification and a major in one modern foreign language, or a PhD in education with 11 graduate courses in one modern foreign language. Students interested in these programs should consult with the College of Education for further information.

Modern Languages (Professional Course)

- 510 **Supervised Practice and Research in Language Laboratory (4)**
For graduate students in teaching English as a foreign language, modern foreign language graduate assistants, graduate teaching assistants in linguistics, graduate education students and teachers in secondary schools and colleges.
Staff; Y.
- 545 **Teaching of Modern Foreign Languages (4)**
(fall). Problems confronting students on level of instruction (elementary school, secondary school, college) at which they teach or plan to teach.
Staff; Y.

French (Romance)

- 515 **French Literature of the Renaissance (5)**
Significant works of major 16th century writers: Marot, Rabelais, the Pleiade poets, Montaigne and others.
Staff; A.
- 516 **French Literature of the Renaissance (5)**
Continuation of 515. See 515 for description.
Staff; A.
- 518 **17th Century French Literature (5)**
Works by numerous authors, including at least some of the following: Descartes, Pascal, Mme de La Fayette, La Rochefoucauld, La Bruyère, La Fontaine, and Boileau.
Staff; A.
- 519 **17th Century French Literature (5)**
Major plays of Corneille, Racine and Molière.
Staff; A.
- 521 **Old French Language and Literature (5)**
(as needed). Language and literature of northern France and England in the Middle Ages, especially 12th and 13th centuries. Elementary knowledge of Latin and German recommended.
Staff; A.
- 522 **Old French Language and Literature (5)**
(as needed). Continuation of 521. See 521 for description.
Staff; A.
- 523 **18th Century (5)**
French literature and thought in the Age of Enlightenment: Montesquieu, Voltaire, Rousseau, Diderot, Marivaux, Beaumarchais.
Staff; A.
- 524 **18th Century (5)**
Continuation of 523. See 523 for description.
Staff; A.
- 525 **Romanticism (5)**
Development of the Romantic movement in France, as exemplified in the drama, poetry and fiction of the 1st half of the 19th century.
Staff; A.
- 526 **Realism and Naturalism (5)**
Representative works of Balzac, Stendhal, Flaubert, Zola and Becque.
Staff; A.
- 527 **French Poetry in the Second Half of the 19th Century (5)**
Poetry of Leconte de Lisle, Heredia, Baudelaire, Verlaine, Rimbaud and Mallarmé.
Staff; A.
- 529 **20th Century French Literature (5)**
French literature before WW II.
Staff; A.
- 531 **20th Century French Literature (5)**
Novel, drama and poetry in France since WW II.
Staff; A.

533 20th Century French Literature (5)

Study in depth of a genre, theme, work or major figure of the 20th century.
Staff: J.

537 Applied Phonetics (4)

(fall). Advanced study of the International Phonetic Alphabet and transcription practice in French.
Staff: D.

539 Modern French Usage (4)

(winter). Finer points of grammar. Practice in composition and analysis of texts.
Staff: Y.

541 Stylistics (4)

(spring). Composition. *Explication de texte*. Translation of English into French. Study of French prose.
Staff: J.

557 History of the French Language (5)

Phonology, morphology and syntax of Old French. Survey of evolution of French from its origin to present; reading of illustrative texts. Elementary knowledge of Latin recommended.
Staff: D.

559 French Civilization and Culture (5)

Prereq: grad rank. Social, political and cultural development of France from its origins to French Revolution.
Staff: D.

560 French Civilization and Culture (5)

Prereq: grad rank. Social, political and cultural development of France from French Revolution to present.
Staff: D.

561 Graduate Study in France (as recommended by dept)

Prereq: perm. Research project must be approved by the graduate committee. Research paper must be presented to the graduate committee by the end of the qtr following foreign study.
Staff: D.

562 Graduate Study in France (as recommended by dept)

Prereq: perm. Continuation of 561. See 561 for description.
Staff: D.

563 Graduate Study in France (as recommended by dept)

Prereq: perm. Continuation of 561 and 562. See 561 for description.
Staff: D.

602 Seminar (5, max 10)

(winter). Advanced study of a period, movement, genre, work or author in 1 of the following areas: (a) Medieval (b) Renaissance (c) 17th century (d) 18th century (e) 19th century (f) 20th century. May be repeated when topic is changed.
Staff: J.

603 Seminar (5, max 10)

(spring). Continuation of 602. See 602 for description.
Staff: J.

611 French for Graduate Reading Requirement (5)

Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (Credit does not count toward degree.)
Staff: Y.

612 French for Graduate Reading Requirement (5)

Continuation of 611. See 611 for description.
Staff: Y.

613 French for Graduate Reading Requirement (5)

Continuation of 611 and 612. See 611 for description.
Staff: Y.

695 Thesis (as recommended by dept)

Prereq: perm.
Staff: Y.

698 Independent Study in French

(1-4, max 4)
Prereq: perm. Normally, final grade is recorded when departmental major examination has been passed.
Staff: Y.

699 Problems in Teaching College French (1, max 3)

Designed to provide guidance for teaching associates in the first year of instructing college students in a beginning language course. Methods of presentation and difficulties in grammar and syntax discussed. Skill of making valid and fair tests developed.
Staff: Y.

German (Germanic)**521 Middle High German Language and Literature (5)**

(as needed).
Staff: D.

522 Middle High German Language and Literature (5)

(as needed).
Staff: D.

525 Studies in 19th Century German Literature (5)

Staff: J.

526 Studies in 19th Century German Literature (5)

Continuation of 525.
Staff: J.

527 Studies in 19th Century German Literature (5)

Continuation of 525 and 526.
Staff: J.

529 Studies in 20th Century German Literature (5)

Staff: J.

530 Studies in 20th Century German Literature (5)

Continuation of 529.
Staff: J.

531 Studies in 20th Century German Literature (5)

Continuation of 529 and 530.
Staff: J.

533 German Lyric Poetry (5)

Interpretative and critical study of German lyric poetry.
Staff: J.

537 Phonology (4)

(fall). Analytical description of sound system of modern German.
Staff: Y.

539 Grammatical Structure (4)

(winter). Structure of German language with emphasis on contrastive syntax of English and German.
Staff: Y.

541 Stylistics (4)

(spring). Practice in writing expository prose and analysis of style.
Staff: Y.

547 Studies in German Literature through the 17th Century (5)

Literature of Courtly period, Renaissance and Reformation and Baroque.
Staff: J.

548 Studies in German Literature through the 17th Century (5)

Continuation of 547. See 547 for description.
Staff: J.

551 Bibliography and Method (4)

(fall). Introduction to literary scholarship and criticism.
Staff: D.

553 Studies in 18th Century German Literature (5)

Major works of Lessing, Schiller, and Goethe.
Staff: J.

554 Studies in 18th Century German Literature (5)

Continuation of 553. See 553 for description.
Staff: J.

555 Studies in 18th Century German Literature (5)

Continuation of 553 and 554. See 553 for description.
Staff: J.

557 History of the German Language (5)

(as needed).
Staff: D.

559 German Culture and Civilization (5)

Prereq: grad rank. Cultural and political development of Germany from its beginning to demise of Holy Roman Empire of German Nation.
Staff: D.

560 German Culture and Civilization (5)

Prereq: grad rank. Cultural and political development of Germany in 19th and 20th centuries.
Staff: D.

561 Graduate Study in Germany, Austria or Switzerland (as recommended by dept)

Prereq: perm. Research project must be approved in advance.
Staff: D.

562 Graduate Study in Germany, Austria or Switzerland (as recommended by dept)

Prereq: perm. Continuation of 561. See 561 for description.
Staff: D.

563 Graduate Study in Germany, Austria or Switzerland (as recommended by dept)

Prereq: perm. Continuation of 561 and 562. See 561 for description.
Staff: D.

602 Seminar (5, max 10)

(winter). Topics to be announced. Students may repeat seminar as often as subject changes, up to a maximum of 10 credit hrs.
Staff: J.

603 Seminar (5, max 10)

(spring). Continuation of 602. See 602 for description.
Staff: J.

611 German for Graduate Reading Requirement (5)

Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (Credit does not count toward degree.)
Staff: Y.

612 German for Graduate Reading Requirement (5)

Continuation of 611. See 611 for description.
Staff: Y.

613 German for Graduate Reading Requirement (5)

Continuation of 611 and 612. See 611 for description.
Staff: Y.

695 Thesis (as recommended by dept)

Prereq: perm.
Staff: Y.

698 Independent Study in German (1-4, max 4)

Prereq: perm. Normally, final grade is recorded when departmental major examination has been passed.
Staff: Y.

699 Problems in Teaching College German (1, max 3)

Designed to provide guidance for teaching associates in the first year of instructing college students in a beginning language course. Methods of presentation and difficulties in grammar and syntax discussed. Skill of making valid and fair tests developed.
Staff: Y.

Italian (Romance)**561 Graduate Study in Italy (as recommended by dept)**

Prereq: perm. For study either in Ohio University's Summer Program in Italy or at an accredited Italian university during the academic yr. Highly qualified student may go to Italy to complete research for graduate paper. Paper must be presented to departmental graduate committee by the end of qtr following study in Italy.
Staff: D.

562 Graduate Study in Italy (as recommended by dept)

Prereq: perm. Continuation of 561. See 561 for description.
Staff: D.

563 Graduate Study in Italy (as recommended by dept)

Prereq: perm. Continuation of 561 and 562. See 561 for description.
Staff: D.

611 Italian for Graduate Reading Requirement (5)

Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (*Credit does not count toward degree.*)
Staff; Y.

612 Italian for Graduate Reading Requirement (5)

Continuation of 611. See 611 for description.
Staff; Y.

613 Italian for Graduate Reading Requirement (5)

Continuation of 611 and 612. See 611 for description.
Staff; Y.

Portuguese (Romance)**611 Portuguese for Graduate Reading Requirement (5)**

Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (*Credit does not count toward degree.*)
Staff; D.

612 Portuguese for Graduate Reading Requirement (5)

Continuation of 611. See 611 for description.
Staff; D.

613 Portuguese for Graduate Reading Requirement (5)

Continuation of 611 and 612. See 611 for description.
Staff; D.

698 Independent Study in Portuguese (1-4, max 4)

Prereq: perm. For students who have established superior records and who have exceptional or native fluency in Portuguese.
Staff; D.

Russian (Slavic)

511 19th Century Russian Poetry (5)
Literary and cultural background of 19th century through works of Pushkin and Lermontov. Work or topic selected by student for special investigation.
Staff; D.

512 19th Century Russian Poetry (5)
Continuation of 511. See 511 for description.
Staff; D.

513 19th Century Russian Poetry (5)
Continuation of 511 and 512. See 511 for description.
Staff; D.

521 Russian Language (5)
Development of Russian phonology, morphology and syntax from Common Slavic to present; texts which illustrate development of Russian lexicon and style.
Staff; D.

522 Russian Language (5)
Continuation of 521. See 521 for description.
Staff; D.

529 Russian Literature of the Soviet Era (5)
Literature and Revolution of 1917. Post-revolutionary writers and currents. Student will select special topic for investigation.
Staff; D.

530 Russian Literature of the Soviet Era (5)
Continuation of 529. See 529 for description.
Staff; D.

531 Russian Literature of the Soviet Era (5)
Continuation of 529 and 530. See 529 for description.
Staff; D.

537 Applied Phonetics (4)
Staff; D.

539 Structure of Modern Russian (4)
Phonology, morphology and syntax of contemporary Russian.
Staff; D.

541 Stylistics (4)
Staff; D.

543 19th Century Novel (5)
Biographies. Novels of Gogol, Turgenev and Tolstoy.
Staff; D.

544 19th Century Novel (5)
Continuation of 543. See 543 for description.
Staff; D.

545 19th Century Novel (5)
Continuation of 543 and 544. See 543 for description.
Staff; D.

561 Graduate Study in the Soviet Union (as recommended by dept)

Prereq: perm. Program may be arranged with established university group or with department's summer group. Time spent abroad must amount to at least 1 wk for each qtr hr of credit granted. Research paper must be presented to graduate committee by end of qtr following foreign study.
Staff; D.

562 Graduate Study in the Soviet Union (as recommended by dept)

Prereq: perm. Continuation of 561. See 561 for description.
Staff; D.

563 Graduate Study in the Soviet Union (as recommended by dept)

Prereq: perm. Continuation of 561 and 562. See 561 for description.
Staff; D.

601 Seminar in Literature (5, max 10)
When topic changes, student may reenroll.
Staff; D.

611 Russian for Graduate Reading Requirement (5)

Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (*Credit does not count toward degree.*)
Staff; Y.

612 Russian for Graduate Reading Requirement (5)

Continuation of 611. See 611 for description.
Staff; Y.

613 Russian for Graduate Reading Requirement (5)

Continuation of 611 and 612. See 611 for description.
Staff; Y.

698 Independent Study in Russian (1-4, max 4)
Prereq: perm. For students who have established superior records and who have exceptional or native fluency in Russian.
Staff; D.

Spanish (Romance)

521 Old Spanish Language and Literature (5)
(as needed). Phonology, morphology and syntax of Old Spanish. Reading from the *Cantar de Mio Cid*, Gonzalo de Berceo, Juan Ruiz and other works. Knowledge of Latin recommended.
Staff; A.

522 Old Spanish Language and Literature (5)
(as needed). Continuation of 521. See 521 for description.
Staff; A.

525 19th Century Spanish Literature (1800-1850) (5)
Romanticism, *costumbrismo* and other trends in drama, essay and poetry. Works by the Duque de Rivas, Espronceda, Larra, Zorrilla and others.
Staff; A.

527 19th Century Spanish Literature (1850-1900) (5)
Regionalism and naturalism in the novel. Works by Fernán Caballero, Valera, Pereda, Blasco Ibáñez, Pérez Galdós and others.
Staff; A.

529 Generation of '98 (5)
Representative works by Azorín, Baroja, Machado, Unamuno, Valle-Inclán and others.
Staff; A.

532 20th Century Spanish Literature (5)
Drama and poetry. Works by Benavente, Casona, García Lorca and other writers of the Generation of 1927.
Staff; A.

533 20th Century Spanish Literature (5)
Historical background, theories of literature and literary movements in peninsular literature from 1939 to present. Works by Cela, Carmen Laforet, Matute, Buero Vallejo and others.
Staff; A.

537 Applied Phonetics (4)
(fall). Systematic description of segmental and prosodic elements of Spanish system, particularly as contrasted with English.
Staff; Y.

539 Modern Spanish Usage (4)
(winter). Syntactical and grammatical structure.
Staff; Y.

541 Stylistics (4)
(spring). Techniques used to acquire a correct style in written Spanish.
Staff; Y.

543 Spanish American Literature (5)
Main currents of Spanish American literature from colonial period through *Modernismo*.
Staff; A.

544 Spanish American Literature (5)
Continuation of 543. See 543 for description.
Staff; A.

547 Themes from Spanish American Prose (5)
Social and literary significance of novels written from 1910 to present.
Staff; A.

548 Contemporary Spanish American Literature (5)
Principal authors and literary movements of post-modernism.
Staff; A.

553 Drama of the Golden Age (5)
Works by Lope de Vega, Tirso de Molina, Juan Ruiz de Alarcón, Calderón and related dramatists.
Staff; A.

555 Novel of the Golden Age (5)
Picaresque novel, Cervantes' *novelas ejemplares* and other trends in the novel of 16th and 17th centuries.
Staff; A.

557 History of the Spanish Language (5)
Evolution of Spanish language from pre-Romance Iberian languages to present. Consideration of contemporary dialects.
Staff; A.

558 Don Quijote de la Mancha (5)
Intensive study of Part One and Part Two of Spain's greatest novel. Biographical material concerning Miguel de Cervantes, author of the *Quijote*.
Staff; A.

559 Spanish Civilization and Culture (5)
Prereq: grad rank. Comprehensive survey of Spanish civilization and culture including setting, historical background, regionalism, intellectual currents and movements in the arts which lead into and form modern Spain.
Staff; A.

560 Spanish American Civilization and Culture (5)
Prereq: grad rank. Reading and interpretation of Spanish American philosophical, political, historical, social and artistic thought as expressed in the essay. Occasional visits of lecturers from other disciplines will provide different perspectives on same subject and thus a crossfertilization of ideas.
Staff; A.

561 Graduate Study in Spain or Latin America (as recommended by dept)
Prereq: perm. (as needed). Research project must be approved by the graduate committee. Research paper must be presented to the graduate committee by the end of qtr following foreign study.
Staff; D.

562 Graduate Study in Spain or Latin America (as recommended by dept)
Prereq: perm. Continuation of 561. See 561 for description.
Staff; D.

563 Graduate Study in Spain or Latin America (as recommended by dept)
Prereq: perm. (as needed). Continuation of 561 and 562. See 561 for description.
Staff; D.

602 Seminar (5, max 10)
winter. Advanced study of a period, genre, work or author in 1 of the following areas: (a) literature of the Middle Ages, (b) Renaissance, (c) modern Spanish literature, (d) Latin American literature. (May be repeated when topic is changed.)
Staff: Y

603 Seminar (5, max 10)
spring. Continuation of 602. See 602 for description.
Staff: Y

611 Spanish for Graduate Reading Requirement (5)
Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (Credit does not count toward degree.)
Staff: Y

612 Spanish for Graduate Reading Requirement (5)
Continuation of 611. See 611 for description.
Staff: Y

613 Spanish for Graduate Reading Requirement (5)
Continuation of 611 and 612. See 611 for description.
Staff: Y

695 Thesis (as recommended by dept)
Staff: Y

698 Independent Study in Spanish (1-4, max 4)
Prereq: perm. Normally, final grade is recorded when departmental major examination has been passed.
Staff: Y

699 Problems in Teaching College Spanish (1, max 3)
Designed to provide guidance for teaching associates in the first year of instructing college students in a beginning language course. Methods of presentation and difficulties in grammar and syntax discussed. Skill of making valid and fair tests developed.
Staff: Y

Greek and Latin Languages

Greek

No graduate program in Greek is offered.

Latin

(Secondary area only)

The prerequisite for a graduate minor in Latin is 18 hours of Latin above two high school units.

501 Studies in Roman Life (3)
Prereq: perm. Specialized study of selected topics.
511 Studies in Latin Literature of the Republic (3)

Extensive reading or study of special topics in the period.

512 Studies in Latin Literature of the Republic (3)
Continuation of 511. See 511 for description.

513 Studies in Latin Literature of the Republic (3)
Continuation of 511 and 512. See 511 for description.

515 Studies in Latin Literature of the Early Empire (3)
Extensive reading or study of special topics in the period.

516 Studies in Latin Literature of the Early Empire (3)
Continuation of 515. See 515 for description.

517 Studies in Latin Literature of the Early Empire (3)
Continuation of 515 and 516. See 515 for description.

519 Graduate Reading in Latin Literature (3)
Reading and essays to complement undergraduate work in Latin.

520 Graduate Reading in Latin Literature (3)
Continuation of 519. See 519 for description.

521 Graduate Reading in Latin Literature (3)
Continuation of 519 and 520. See 519 for description.

533 Special Work in Latin Syntax (3)
Development of style in writing Latin prose.

540 Special Problems in Latin (2-6, max 12)
(as needed). Investigation of selected phases of classical study.

601 Latin for Graduate Reading Requirement (4)
Preparation for reading knowledge examination required by certain departments for master's and PhD degrees. (Credit does not count toward degree.)

602 Latin for Graduate Reading Requirement (4)
Continuation of 601. See 601 for description.

603 Latin for Graduate Reading Requirement (4)
Continuation of 601 and 602. See 601 for description.

FRENCH

(See Foreign Languages and Literatures)

GEOGRAPHY

The Department of Geography offers the master of arts degree with emphases in area studies, cultural geography and geographic techniques. It is also possible to emphasize environmental studies in connection with the Graduate College program. The bachelor's degree, the aptitude portion of the GRE and departmental approval are necessary for admission to the program. After acceptance, students participate in interviews conducted by the geography faculty.

Specific degree requirements include nine courses other than thesis, seven of which must be in geography. Required courses are Geog 670 (Geographic Thought), Geog 675 (Research Methods), Geog 677 (Quantitative Methods), and at least two seminars in geography. The student must complete an acceptable thesis on a topic approved by the faculty advisor and thesis committee.

501 Advanced Physical Geography (5)
Application of physical geographic principles to specific research problems.
Isaac; Sp; Y; 1975

511 Elements of Meteorology (5)
General survey of physical principles of weather.
Isaac; F, Sp; Y; 1975

512 Climate (5)
Exchanges of energy and moisture and their significance in man's utilization of earth's surface.
Isaac; W; Y; 1975

521 Themes in Cultural Geography (5)
Systematic study of creation of human habitat. Exploitation of plants and animals, domestication, recent research. City origins and manifestations in different civilizations. Perceptions and ideas concerning environment.
Cobban; W; A; 1975

525 Principles of Political Geography (5)
Systematic examination of basic approaches, topics and spatial concepts in political geography, with case studies. Emphasis at nation-state level.
Walter; W; Y; 1975

527 Geographic Perspectives on Resource Management and Conservation (5)
Problems in management of renewable natural resources approached from geographic and ecological viewpoints.
Walter; W; Y; 1975

530 Transportation Geography (5)
Transportation systems in relation to the economic structure of regions and as a basis for interregional linkages.
Bloemer; W; A; 1975

531 Geography of Agricultural Activity (5)
Spatial organization in agricultural systems.
Staff; W; A; 1973

532 Geography of Manufacturing (5)
Industrial location theory and practice.
Bain; F; A; 1974

540 Geography of Western Europe (5)
Physical, cultural and economic geography of western Europe.
Wilhelm; W; A; 1975

541 Geography of Eastern Europe (5)
Physical, cultural and economic geography of eastern Europe.
Staff; D

542 Geography of Soviet Union (5)
Physical, cultural and economic geography of the Soviet Union.
Staff; D

545 Southeast Asia (5)
Introduction to physical, cultural and historical geography of Southeast Asia.
Cobban; F; Y; 1974

550 Geography of Northern Africa (5)
Physical and cultural-historical geography and problems of economic development of northern Africa.
Bernard; D

551 Geography of Sub-Saharan Africa I — Systematic (5)
Systematic examination of 4 selected themes relevant to modern geography of Africa. Emphasis on development.
Bernard; Walter; F; Y; 1974

552 Geography of Sub-Saharan Africa II — Regional (5)
Regional survey of the four major areas of tropical Africa: East, West, Equatorial, Central and South.
Bernard; Walter; W; Y; 1975

555 Geography of South America (5)
Regional survey of South America with emphasis on problems of social and economic development within Andean countries.
Williams; Sp; Y; 1975

556 Geography of Middle America (5)
Regional survey of Mexico, Central America and West Indies, with emphasis on cultural history of region and current development problems.
Williams; W; Y; 1975

560 Cartography and Graphics (5)
Introduction to basic design principles of esthetically pleasing maps, emphasizing legibility and readability from map user's viewpoint. Map construction ranges from simple map compilation to multi-color composition and scale reduction.
Bloemer; F; Y; 1974

561 Statistical Cartography (5)
Cartographic techniques of representing quantitative data on maps.
Bloemer; W; Y; 1975

565 Air-Photo Interpretation (5)
Principles and techniques used in air-photo interpretation for geographers, geologists, military, community planners and engineers.
Bloemer; Sp; Y; 1975

622 Population Geography (5)
Systematic survey of world population problems including distribution, composition, fertility, mortality, density, age-sex structure and impact of the on world population growth and resources.
Williams; Bain; F, Sp; Y; 1974, 1975

629 Settlement Geography (5)
Patterns and forms of rural settlement in terms of environmental, functional and traditional effects.
Wilhelm; Sp; Y; 1975

630 Advanced Urban Geography (5)
Such selected topics as internal structure, urban physical environment and others.
Bain; W; A; 1975

660 Advanced Cartography (5)
Computer-aided cartography for quantitative data; culminating in application of cal-comp plotter.
Bloemer; Sp; Y; 1975

670 Development of Geographic Thought (5)
Philosophical examination of evolution of geography as an academic discipline. Historical theme covers major traditions, ideas, concepts, trends, controversies and prominent geographers within field.
Walter; Cobban; Sp; Y; 1975

675 Research Methods in Geography (5)
Research materials, methods of investigation and presentation of geographic data.
Bain; F; Y; 1974.

676 Field Methods (5-9)
Introduction to geographic field methods and techniques in rural and/or urban areas, involving field mapping and recording, spatial sampling, interviewing, coding and visual recording, field analysis and reporting and summarizing.
Staff; Su; D; 1975.

677 Quantitative Methods (5)
Systematic survey of quantitative techniques employed by geographers.
Isaac; F; Y; 1974.

681 Seminar in Physical Geography (5)
Selected topics.
Isaac; W; D; 1975.

682A Seminar in Cultural Geography (5)
Selected topics.
Cobban; W; D; 1975.

682B Seminar in Political Geography (5)
Selected topics.
Walter; D.

683A Seminar in Economic Geography (5)
Selected topics.
Bain, Cobban; Sp; D; 1975.

683B Seminar in Urban Geography (5)
Selected topics.
Staff; D.

684A Seminar in Regional Geography: Europe (5)
Selected topics.
Wilhelm; D.

684B Seminar in Regional Geography: Southeast Asia (5)
Selected topics.
Cobban; D.

684C Seminar in Regional Geography: Africa (5)
Selected topics.
Bernard, Walter; Sp; Y; 1975.

684D Seminar in Regional Geography: Latin America (5)
Selected topics.
Williams; D.

684E Seminar in Regional Geography: Anglo America (5)
Selected topics.
Wilhelm, Staff; D.

690 Geographic Studies (1-5, max 10)
Supervised studies in fundamentals of geographic research (A) cartography, (B) economic, (C) meteorology and climatology, (D) physical, (E) political, (F) regional, (G) resource and management and conservation, (H) settlement, (I) urban, (J) field problems.
Staff; F, W, Sp, Su; Y; 1975.

695 Thesis (1-15)
Staff; F, W, Sp, Su; Y; 1975.

GEOLOGY

The master of science degree is offered in the following fields of geology: geomorphology, geophysics, glacial geology, hydrogeology, paleontology, paleoecology, stratigraphy, economic geology, mineralogy, petrology, sedimentology and structural geology.

Graduate students with undergraduate majors in physics, mathematics, biology, chemistry, civil engineering and geology may also study for the MS degree in a special program in hydrogeology and a geology option in the MS program in environmental studies.

A graduate student desiring a master's degree in geology must have completed courses in physical geology, historical geology, crystallography and determinative mineralogy, petrology, geomorphology, paleontology, sedimentology, stratigraphy and structural geology. At least nine quarter hours each of chemistry, physics and mathematics through differential and integral calculus are required. Students unable to meet the above requirements will

be asked to make up deficiencies without graduate credit. A recognized field camp is required. Field camp may be taken for graduate credit during the first graduate summer but does not count toward the hours required for the MS degree. A minimum of 12 courses selected from the graduate core curriculum are required for the degree. A further requirement is a thesis on a subject approved by the student's faculty advisor and the departmental graduate committee in one field of specialization.

Graduate students holding departmental assistantships must teach laboratory sections on a part-time basis.

503 Geological Aspects of Environmental Science (4)

Prereq: perm. Overview of role of geological data in problems concerning mineral and fuel resources, land uses, natural hazards and pollution of our environment.
Staff; D.

506 Geology of Ohio (3)

Prereq: 103 or perm. Physiography, stratigraphy and economic geology of Ohio. 3 lec, field trips.
Sturgeon; F; A; 1974.

507 Topographic Map and Aerial Photo Interpretation (4)

Principles of use of topographic maps and aerial photographs for study and interpretation of geologic and geomorphic features. 2 lec, 4 lab.
Smith; W; Y; 1975.

531 Regional Geomorphology of North America (4)

Prereq: 330, 356 or perm. General consideration of nature and origin of land forms of North America, emphasizing regional approach to study of land forms.
Smith; Sp; A; 1975.

587 Summer Field Geology (9)

Prereq: perm. (8 wks, summer). Geologic mapping in deformed sedimentary, igneous and metamorphic terranes to include use of Brunton compass, hand level and air photos. Written field report required. Course conducted in Nevada.
Staff; Su; Y; 1976.

608 Statistical Applications in Geology (3)

Prereq: perm. Application of basic statistical techniques to geology. 2 lec, 2 lab.
Worsley; D.

611 Marine Geology (3)

Prereq: perm. Basic sedimentological processes and sedimentary facies in marine environments.
Worsley; W; A; 1976.

613 Optical Mineralogy (4)

Prereq: perm. (fall). Optical characteristics of minerals in polarized light; identification of minerals with petrographic microscope. 2 lec, 4 lab.
Heien; F; Y; 1975.

615 X-ray Methods (3)

Prereq: perm. X-ray diffraction and X-ray crystallography; identification of minerals and analysis of mineral structures by powder method. 2 lec, 2 lab.
Heien; D.

622 Igneous and Metamorphic Petrography (4)

Prereq: 613. Petrogenesis of igneous and metamorphic rocks and their description and classification in thin section. 2 lec, 4 lab.
Yeats; Sp; A; 1976.

624 Sedimentary Petrography (3)

Prereq: 613. Identification and environmental analyses of sedimentary rocks in thin section and grain mounts. 2 lec, 2 lab.
Fisher; W; Y; 1976.

626 Principles of Geochemistry (3)

Prereq: perm. Low-temperature solution geochemistry and equilibrium (including sea water); Eh-pH relationships; applications of thermodynamics to geologic systems; introduction to isotope geochemistry. 3 lec.
Heien; Sp; Y; 1976.

632 Origin and Classification of Soils (4)

Prereq: perm. Concept of soil and factors of soil formation; introduction to soil morphology and systems of soil classification; discussion of major soil groups of world and soils of Ohio. 3 lec, 2 lab, field work.
Smith; Sp; A; 1976.

638 Glacial Geology (5)

Prereq: perm. Formation and behavior of glaciers, past and present; glacial processes and causes and implications of ice ages. 3 lec, 2 lab, field trips.
Smith; F; Y; 1975.

643 Advanced Invertebrate Paleontology (5)

Prereq: perm. Evolutionary trends, geologic history, representative faunas and modern methods in study of invertebrate fossils. 2 lec, 6 lab, field work.
Sturgeon; W; A; 1975.

646 Principles of Micropaleontology (4)

Prereq: perm. Biology, morphology, taxonomic characteristics and uses of microscopic fossils. 2 lec, 4 lab.
Worsley; F; A; 1975.

648 Principles of Paleogeology (4)

Prereq: perm. Basic principles involved in reconstruction of paleoenvironments. 3 lec, 2 lab, field work.
Worsley; Sp; A; 1975.

655 Precambrian Geology (3)

Prereq: perm. Precambrian stratigraphy and igneous intrusions of North America and major problems involved. 2 lec, 2 lab.
Phelps; Sp; A; 1975.

656 Paleozoic Stratigraphy (4)

Prereq: perm. Distribution of sediments of Paleozoic age in North America, their types, facies relationships and tectonic controls. 3 lec, 2 lab.
Sturgeon; F; A; 1975.

660 Advanced Structural Geology (3)

Prereq: perm. Mechanical analysis of deformed rocks, structural analysis using stereonet, structural petrology, present-day crustal deformation. 3 lec.
Yeats; W; A; 1975.

664 Global Tectonics (3)

Prereq: bachelor's degree in science or engineering, or perm. Overview of continental drift, sea floor spreading and plate tectonics, emphasizing new data from oceanography, solid-earth geophysics, geochemistry, stratigraphy and paleontology. 3 lec.
Yeats; W; A; 1976.

670 Economic Geology—Metals (4)

Prereq: perm. Metallic mineral deposition; major ore deposits of the world. 3 lec, 2 lab.
Phelps; F; A; 1974.

671 Ore Deposits (3)

Prereq: perm. Texture, paragenesis and origin of metallic ores in polished sections. 2 lec, 2 lab.
Phelps; W; A; 1975.

673 Economic Geology—Nonmetals (3)

Prereq: perm. Nonmetallic mineral deposition; nonmetallic and coal deposits of world. 2 lec, 2 lab, field trips.
Fisher; F; A; 1975.

675 Petroleum Geology (4)

Prereq: perm. Origin, migration and accumulation of petroleum and survey of major oil basins of world. 3 lec, 2 lab.
Fisher; F; A; 1974.

676 Subsurface Methods (4)

Prereq: perm. Drilling practices, electric, sonic and radioactivity logging, applied to subsurface exploration. 3 lec, 2 lab.
Ahmad, Fisher; W; Y; 1976.

680 Hydrogeology (4)

Prereq: perm. Principles governing occurrence, movement and recovery of water in soil and aquifers, water budget, water pollution, water chemistry. 3 lec, 2 lab.
Ahmad; F; Y; 1975.

681 Hydrogeology (4)

Prereq: perm. Design of well construction and well fields. Pumping tests, interference. Study for ground water basins. 3 lec, 2 lab.
Ahmad; W; Y; 1976.

682 Theory of Ground Water Motion (3)

Prereq: perm. Basic principles and fundamental equations; D.E. of ground water motion, solution of boundary value problems for different types of aquifer. Analytical and numerical methods in subsurface hydrology with emphasis on finite difference method; digital model.
Ahmad; Sp; Y; 1976.

683 Field Hydrology (4)
Prereq: water resources background. Field training in techniques of hydrology and water resources evaluation.
Staff: Su, Y; 1976.

684 Geological Aspects of Water Pollution (1)
Prereq: perm. Occurrence of ground water, vertical distribution, types of aquifer, ground water basins, source, movement and quality of ground water, sources of water pollution.
Ahmad; D.

685 Applied Geophysics (4)
Prereq: perm. Introductory course on seismic, gravity, magnetic and electrical prospecting. 3 lec, 2 lab.
Ahmad; Sp, Y; 1976.

688 Geologic Field Reconnaissance (2-3)
Prereq: perm. Vacation period geologic field trips to selected areas in North America with pertinent conferences, readings and reports.
Staff: W; D.

690 Advanced Seminar in Geology (1-2)
Prereq: perm. Intensive study of selected geologic topics by special groups. Several seminars may be held concurrently.
Staff: F, W, Sp, Su, Y; 1976.

691 Geologic Studies (1-4, max 8)
Ahmad (G.E.I.), Worley (A.H.K.), Fisher (B.C.H.), Heen (D.J.), Phelps (B.D.J.), Smith (F.G.), Sturgeon (A.H.K.), Yeats (J.M.). A History of Geology, B. Economic Minerals and Fuels, C. Engineering and Environmental Geology, D. Geochemistry, E. Geophysics, F. Geomorphology and Physiography, G. Glacial Geology, H. Historical Geology, I. Hydrogeology, J. Mineralogy and Petrology, K. Paleontology and Paleogeology, L. Sedimentology and Stratigraphy, M. Structural Geology and Tectonics. Supervised studies in fundamentals of geologic research.
Staff: F, W, Sp, Su, Y; 1976.

693 Research in Geology (1-3, max 6)
Staff: F, W, Sp, Su, Y; 1976.

695 Thesis (1-9)
Staff: F, W, Sp, Su, Y; 1976.

GERMAN

(See Foreign Languages and Literatures)

GOVERNMENT

To begin graduate work in government, a minimum of 18 semester or 27 quarter hours of undergraduate work in government, or its equivalent, is required.

The department offers both a thesis and non-thesis option for the MA degree. General requirements are: a minimum 15 quarter hours of graduate work, of which ten are credited for the writing of a thesis if that option is chosen, and an oral comprehensive examination in the general area of the student's interest. These areas of concentration include: (1) American Politics (2) Public Administration (3) Comparative Politics (4) International Relations (5) Political Theory and Methodology.

501 American Constitutional Law (5)
Principles underlying American constitutional government. Consideration of leading cases with reference to interpretation of the Constitution of the United States.
Guterson; Y.

502 American Constitutional Law (5)
Continuation of 501. See 501 for description.
Guterson; Y; 1973-74.

505 American Political Parties (5)
Origin, growth, organization and methods of parties. Suffrage, nominations and elections. Role of parties in a democracy.
Guterson; Y; 1973-74.

509 Law Enforcement (5)
Role, function and problems of American judicial, prosecutive, police and correctional systems in political process. Relationship of law and social organization.
Staff: Y; 1973-74.

510 Public Policy (5)
Analysis of major forces determining public policy. Policy areas such as education, health and social welfare examined and relationship between information and decision-making explored.
Huntley; Y; 1973-74.

511 Public Administration (5)
Development of administrative organizations, current ideas in organizational theory, nature of federal bureaucracy, fiscal management and control of administrative action.
Collins; Y; 1973-74.

512 Public Personnel Administration (5)
Analysis of philosophy, problems and procedures of public personnel management. Recruitment training and promotion policies, position classification and employer-employee relations.
Collins; Y; 1973-74.

513 Administrative Law
Organization, function and procedures of selected national regulatory agencies. Principles affecting administrative discretion, administrative power over private rights, enforcement and judicial control of administrative decisions.
Collins; Y; 1973-74.

514 Public Administrative Organization and Behavior (5)
Prereq: perm. Analysis of ways people behave in public administrative organizations, emphasizing politically relevant interpersonal and interagency relationships within bureaucracies and interactions of administrators with private individuals, interest groups, legislators, the press, public opinion and political parties.
Collins; Y; 1973-74.

515 The American Presidency (5)
Analysis of office of national chief executive and its place in American political system; constitutional status and powers, functional development and interrelationship of man and office.
Guterson; Y; 1973-74.

517 Legislative Processes (5)
Environments in which legislatures function, various participants in legislative processes, formal and informal legislative structure and procedures and politics of legislative reform. Classroom simulations provide opportunities for student role playing. Emphasis is on American national and state legislatures.
Staff: Y; 1973-74.

518 Pressure Groups and Public Policymaking (5)
Organization and tactics of pressure groups and their impact on policymaking groups.
Staff: Sp; Y; 1973-74.

526 American Foreign Policy (5)
Problems involved in formulation and execution of foreign policy. Contemporary problems of American policymakers.
Collins; Y; 1973-74.

527 Formulation of American Foreign Policy (5)
Prereq: perm. Institutional and administrative as well as political and more informal processes influencing formulation and implementation of U.S. foreign policy decisions. Although focus will be on executive branch (White House, Department of State, Foreign Service, Department of Defense, AID, USA, CIA, AEC, etc.), other contributory influence such as Congressional involvement, political parties, public opinion, etc. will be included. Foreign policy machinery of limited but representative number of other nations analyzed for comparative purposes.
Collins; Y; 1973-74.

532 Government and Politics of the Soviet Union (5)
Institutions, nature and policies of Soviet system of government; historical background, ideology and organization; dynamics of ideology and power and nature of totalitarian systems.
Williams; Y; 1973-74.

533 Soviet Foreign Policy (5)
Analysis of foreign policies of the USSR. Historical, ideological and other influences, relations with bloc countries.
Williams; Y; 1973-74.

534A Government and Politics of Latin America (5)
Contemporary governments of Latin America. Emphasis on structure of political parties and institutions.
Walker; Y; 1973-74.

534B Revolution in Latin America (5)
Emphasis on Mexican and Cuban revolutions. May be taken without 534A.
Walker; Y.

538 Government and Politics of Germany (5)
Analysis of political institutions, processes and forces in contemporary Germany.
Bald; Y; 1973-74.

541 Government and Politics of Africa (5)
Development and structure of modern African states with emphasis on political processes in tropical Africa.
Baum; Y.

545 Government and Politics of Japan (5)
Political institutions and processes of Japan with emphasis on developments since 1945.
Elisbee; Y; 1973-74.

546 Government and Politics of China (5)
Political institutions and processes, and major political developments in China with emphasis on recent events.
Elisbee; Y; 1973-74.

547A Governments and Politics of Southeast Asia (5)
Political institutions, processes and groups in states of the area. 547A emphasizes political problems common to the region.
van der Veer, Gagliano; Y; 1973-74.

547B Governments and Politics of Southeast Asia (5)
Continuation of 547A. See 547A for description. 547B examines individual countries in detail.
van der Veer, Gagliano; Y; 1973-74.

552 International Relations Theory (5)
Prereq: perm. Major theoretical approaches to study of international relations, including recent work in areas such as survey, research, communications, decisionmaking, simulation, systems analysis, strategy and game theory. Both traditional theories and behavioral models examined.
Mohnen; Y; 1973-74.

555 International Law (5)
International law in interstate relations and in international organization.
Kim; Y; 1973-74.

556 International Organization (5)
Nature, development, structure and function of international organizations, with emphasis on the United Nations.
Kim; Y; 1973-74.

561 New States in World Politics (5)
Impact of new states on international relations. Attention given to problems and foreign policies of new states.
Baum, van der Veer; Sp; Y; 1976.

574 19th Century Political Thought (5)
Movements in 19th century political thought in Europe; liberalism, socialism, irrationalism among subjects covered.
Staff: Y; 1973-74.

575 Studies in Political Thought (5)
Selected issues in contemporary political theory. Proposals for reform of political system, role of intellectuals in politics, analysis of key political concepts.
Staff: Y; 1973-74.

576A American Political Thought (5)
Considers origin and development of political ideas from colonial period through slave controversy.
Purley; Y; 1973-74.

576B American Political Thought (5)
Continuation of 576A. 576B begins with Social Darwinism and concludes with contemporary political ideas in America.
Purley; Y; 1973-74.

579 Latin American Political Thought (5)
Evolution of Latin American thought from independence movements to present. Emphasis on representative thinkers of major intellectual controversies. Attention paid to influence of foreign ideologies and socio-economic conditions. Students will read original sources or their translations.
Walker; Y; 1973-74.

581 Modern Political Analysis (5)
Problems of knowledge in social sciences, with emphasis on political science. Analysis of recent major theories or approaches in political science. Required of all graduate majors.
Dabelko; F, Sp; Y; 1973-74.

582 Quantitative Political Analysis (5)
Prereq: 581 or perm. Relevance of scientific research techniques to study of politics.
Dabelko; Y; 1973-74.

585 Personality and the Political Process (5)
Relevance of personality characteristics, psychological mechanisms and life history factors in explaining political behavior. Topics covered: behaviorism, psychoanalytic theory, authoritarianism, dogmatism and other personality traits as related to political beliefs and behavior.
Dabelko; Y; 1973-74.

590 Studies in Government (1-5)
Intensive study of special topics, including American government, international relations, political theory and public administration.
Staff; F, W, Sp, Su; Y, D; 1973-74.

591 Research in Government (1-5, max 10)
Individual supervised research.
Staff; F, W, Sp, Su; Y, D; 1973-74.

598 Problems in Government (1-5, max 10)
Research or directed reading based on student's special interest.
Staff; F, W, Sp, Su; Y, D; 1973-74.

610 Seminar in American National Government (5, max 15)
Selected topics.
Staff; Y; 1973-74.

611 Seminar in Comparative Politics (5, max 15)
Selected topics.
Staff; F, W; Y; 1973-74.

612 Seminar in International Relations and Organization (5, max 15)
Selected topics.
Staff; Y; 1973-74.

613 Seminar in Political Theory (5, max 15)
Selected topics.
Staff; Y; 1973-74.

614 Seminar in Public Administration (5, max 15)
Staff; Y.

648 Problems and Prospects in Southeast Asia (4)
Political systems of Indonesia, Malaysia and Philippines. Both traditional and modern aspects of politics and administration and indigenous contributions to latter.
van der Veer; Y.

695 Thesis (1-10)
Prereq: perm.
Staff; F, W, Sp, Su; D; 1973-74.

GREEK

(See Foreign Languages and Literatures)

HAUSA

(See Foreign Languages and Literatures)

HEALTH, PHYSICAL EDUCATION AND RECREATION

A student wishing to begin a graduate major in physical education will be expected to present a minimum of 36 quarter hours (24 semester hours) of approved coursework in health and physical education (or the equivalent) as approved by the School of Health, Physical Education and Recreation. This approved work would approximate the State of Ohio certifiable minor in health and physical education.

Students must be approved for the program by the committee on graduate study in the School of Health, Physical Education and Recreation.

Three curricular options are available to students, depending upon their particular interests.

All graduate students must complete HPER 509, 610, 691, and 692. In addition to the required courses, all graduate students must elect a minimum of 19 quarter hours of study to complete the degree requirements.

MASTER'S PROGRAM

PLAN A

Plan A permits the graduate student to work toward the master of science degree. Students who elect Plan A for graduate study in physical education and the related subjects of health education and recreation may combine these interests into a major of 30 hours and a thesis. One or two other areas will be associated with this major to complete 39 hours in addition to a thesis (six hours), for a total of 45 hours.

Associated areas may be selected from related graduate course offerings in the University (with an understanding that a minimum of nine or more hours of prerequisite study is usually required before graduate study is permitted). The following areas are commonly selected: educational administration, counseling and guidance, history, social science, biological science, psychology or industrial arts. The student, however, is in no way limited to these areas.

The student must pass a comprehensive examination based on his or her major field of study. This examination is taken as directed by the major department.

PLAN B

Plan B permits the graduate student to work toward the master of education degree. This plan is available under the same requirements as Plan A, except for the following provisions:

1. The student will complete a minimum of 50 quarter hours of credit for the degree. Within this program 36 hours are taken in the major field. One or two other areas will be associated with this major to complete the required 46 hours of coursework. Four credit hours are given for the completed research paper.
2. The student will develop a problem in health education, physical education, recreation, athletics or a related area. The written report (research paper) of the problem must conform to the format for research writing as recommended by the department.
3. The student must pass a comprehensive examination based on his or her major field of study. This examination is taken as directed by the major department.

PLAN C

Plan C permits the graduate student to work toward the master of education degree. This plan is available under the same requirements as Plan A, except for the following provisions:

1. The student will complete a minimum of 50 quarter hours of credit for the degree. Within this program 36 hours are taken in his or her major field. One or two other areas will be associated with this major to complete the required 50 hours of coursework.
2. Neither a research paper nor thesis is required.
3. The student must pass a comprehensive examination based on his or her major field

of study. This examination is taken as directed by the major department.

500 Guided Independent Study (1, max 2)
Selected problem with written report based on research.

Stewart; Phillips; F, W, Sp, Su; Y.

504 History and Principles of Physical Education (4)

Prereq: grad rank. Origins and development of physical education and sport from time of primitive peoples through Greeks, Romans, Germans, English and Americans; biological, psychological, sociological and curricular principles underlying modern physical education program.
Staff; A.

506 Organization and Administration of Physical Education (5)

Physical education, recreation and athletics administration in schools and colleges.

Stewart; Sp, Su; Y.

507 Problems of Competitive Athletics (3)
Problems of athletic competition at all age levels.

Lavery; W, Su; Y.

509 Advanced Tests and Measurements (4)
Review of descriptive statistics, introduction to use of computers, inferential statistics, class problems, using data collection, computer input, and statistical analysis.

Wilkinson; Sp, Su; Y.

510 Athletic Administration Seminar (3)

Prereq: grad rank in HPER or perm. (Cr-F grading only). Introduction to various aspects of athletic administration, responsibilities of athletic director, business manager, sports information director, athletic trainer, ticket manager, facility construction and management, security, crowd control and facility utilization are presented and discussed.

Lavery; Sp; Y.

514 Physiology of Exercise (4)
Fundamental concepts describing reaction of organ systems to exercise, study of work produced by muscle. Special areas include sport conditioning, muscular fatigue, physiology and nutrition in exercise, weight control and exercise; physical fitness; exercise and environmental stresses; review of recent research in exercise physiology and human performance.

Hagerman; Sp, Su; Y.

515 Physiology of Exercise Laboratory (2)
Laboratory experiences designed to complement material covered in 514. Graduate students must take 514 and 515 concurrently.

Hagerman; Sp, Su; A; 1973-74.

549 Administration of Community Recreation (4)

History of play movement, programs and program building, administration of playgrounds, community centers and recreational activities.

Wilkinson; W, Sp, Su; Y.

550 Practicum in Athletic Administration (1-5, max 5)

Prereq: grad rank, 510 or perm. Supervised work experience in various aspects of administration of intercollegiate and interscholastic athletic program.

Lavery; F, W, Sp, Su; Y.

553 Clinical Observation and Practice in Physical Medicine and Rehabilitation (6)

Prereq: perm. Concentrated summer school field course at Veterans Administration Hospital, Chillicothe, Ohio.

Staff; Su; A; 1972-73.

555 Psychology of Coaching (3)

Prereq: perm. Analysis of psychological factors and principles with special reference to emotional, attitudinal and personality problems of athletes.

Higgins; Sp, Su; Y.

580 Safety in the Public Schools (4)

Prereq: perm. Concepts and fundamentals of safety education and safety education programming as it relates to public schools.

Higgins; W, Su; Y; 1973-74.

585 Advanced Perceptual Motor Development in Children (3)

Prereq: Admission to grad study or perm. Seminar in field of perceptual motor development in pre-school and primary grade children. Special emphasis on practical application of theory and research findings to areas of movement performance and learning readiness.

Schmidt; Sp; Y.

590 Community Health Programs (4)

Prereq: perm. Institutional framework and activities of various agencies promoting and maintaining health of people of community, state and nation.

Phillips, W. Sp, Y.

595 School Health Problems (5)

Organization and administration of school health programs including school and community relationships.

Phillips, F. W. Sp, Su; Y.

601 Problems in Health and Physical Education (4)

Selected problems in health education and physical education, research reading, discussion, analysis, written reports, examinations.

Schmidt, F. Su; Y.

610 Curriculum in Physical Education (4)

Analysis of criteria and procedures for curriculum construction in physical education, development of written guides for programs in elementary and secondary schools, colleges and universities.

Schmidt, Sp, Su; A.

611 Special Problems in Physical Education (1-6)

Prereq: 601 and perm. summer, fall, winter, spring. Individual research and experimentation of professional problems. Identification of pertinent problems and planning an effective attack toward potential solution.

Stewart, Phillips, F. W. Sp, Su; Y.

652 Physical Diagnosis (4)

Program development relative to student health for physical education instructors, coaches and allied professionals. Techniques of physical examinations and treatment considerations pertaining to common injuries and illnesses suffered in physical education and athletics.

Mattmiller, W. Su; Y.

660 Internship in Sports Administration (1-5) (Cr-F grading only)

Prereq: grad rank in sports administration, perm. (Cr-F grading only). Supervised professional work experience in approved sports-oriented organization.

Stewart, F. W. Sp, Su; Y.

691 Seminar in Physical Education and Athletics (4)

Research and investigation in health education, physical education, recreation or athletics. Topics and problems suitable for thesis writing, methods of research, writing practice and critical analysis of outlines for research study.

Stewart, Phillips, F. W. Su; Y.

692 Foundations of Physical Education (5)

Philosophical, historical, and psycho-social bases of physical education and sport.

Schmidt, W. Su; Y.

695 Thesis (1-6)

Stewart, Phillips, F. W. Sp, Su; Y.

HEARING AND SPEECH SCIENCES

The graduate program provides course structure and required practicum in speech pathology, audiology and speech science and combinations of these areas for students wishing to concentrate in clinical areas, research activity and/or teaching opportunities.

The academic programs in speech pathology and audiology are accredited by the American Boards of Examiners in Speech Pathology, of the American Speech and Hearing Association. The graduate program, in addition to primary University support, has some support from grants.

All students will spend time in observation and participation in diagnosis, therapy, research, and related activities as well as studying in classes. Training and service are combined in the campus clinic, local schools, hospitals, retardation programs, county clinics and medical team diagnostic clinics. Off-campus diagnostic divisions offer a wide range of services in speech and hear-

ing. Laboratory facilities provide training in investigation of acoustical, physiological and behavioral aspects of communication.

All graduate students are responsible for becoming familiar with the current revision of the *Requirements for the Certificate of Clinical Competence* and/or the licensure requirements of states where employment is intended.

All applicants for the master's or doctoral programs must submit scores for either the Graduate Record Examination (GRE) or Miller's Analogies Test (MAT) as a part of their applications.

MASTER'S PROGRAM

Prospective graduate students should present a minimum of 36 quarter hours of speech and hearing courses including phonetics, speech science (acoustics relating to speech and hearing), language development, anatomy and physiology of speech and hearing, basic audiology, and coursework in speech disorders as well as outside related coursework. These undergraduate courses that have not been taken must be taken by the student but will not count as graduate program hours. Students entering from other disciplines receive an undergraduate special status which requires an additional year of academic coursework prior to being considered for the graduate program. Academic ability, experience records, three letters of personal recommendations, and either GRE or MAT scores are considered for the admission of students. A minimum grade-point average of 2.75 (on a 4.0 scale) for all undergraduate work is required for consideration into the program. Due to the sequential nature of the program, admission is limited to summer or fall enrollment with exceptions made for students with undergraduate special status.

Minimum requirements for the nonthesis option MA in speech pathology are 69 quarter hours including 42 required hours in speech pathology and audiology, 8 hours of electives in speech pathology, 15 hours of electives in nonmajor areas (such as psychology, linguistics, special education, and audiology), 3 hours of clinical practicum, and 1 hour of internship. Minimum requirements for the non-thesis option MA in audiology are 66 quarter hours including 50 required hours in audiology, 12 hours of electives, 3 hours of clinical practicum, and 1 hour of internship. During the clinical internship, students are provided full-time clinical training for approximately 10 weeks either in the University speech and hearing clinic or in some approved external setting such as hospitals, schools, multi-disciplinary clinics, or rehabilitation centers.

DOCTORAL PROGRAM

Applications for admission to graduate study at the doctoral level are considered individually by the staff. To be eligible for admission without condition, an applicant must have completed the master's degree in the field of hearing and speech sciences or the substantial equivalent of the course requirements for this degree, and show evidence of superior scholarship, a genuine interest in research, good character and other personal attributes appropriate to a potential member of a learned profession. The doctoral program provides for the acquisition of a relatively broad background in the hearing and speech sciences with the primary areas being speech pathology, audiology and speech science.

Among the general requirements for the degree is a total of 150 quarter hours of graduate credit beyond the bachelor's degree, of which up to 24 hours may be earned for the dissertation.

In addition the student must carry a major of at least 54 quarter hours (other than dissertation credit). At least 27 quarter hours of the major must be taken at Ohio University. Two minors of at least 15 quarter hours each must be taken. One minor must be outside the school and one minor may be inside the school. The remaining hours, up to a minimum of 150, may be distributed among any of the categories listed above or in appropriate elective courses approved by the student's guidance committee.

The area within the School of Hearing and Speech Sciences may be in any of the specialization areas. The outside area will be in a related field, approved by the student's guidance committee. The total program is planned by the student and his or her advisor, and is subject to the approval of the student's guidance committee.

518 Disorders of Articulation (4)

Prereq: perm. (fall). Phonetic acquisition, articulation evaluation, theories and techniques of therapy.

F; Y; 1975.

524 Neuropathologies of Speech and Language (4)

Prereq: perm. (fall, winter). Types, causes, syndromes of more significant pathologies of speech and language. Concentration on neurological disorders.

Dean, W. Sp; Y; 1976.

536 Speech and Hearing Disorders in the Public Schools (3-4)

Nature, causes, treatment of speech disorders in public schools; special reference to role of classroom teacher. (Not open to HSS majors.)

F, W, Sp; Y; 1975-1976.

537 Speech and Hearing Therapy in the Public Schools (2)

Prereq: concurrent with practicum. Methods, organization and implementation of public school speech and hearing programs. (Majors only.)

Staff; F, W, Sp, Su; Y; 1975-1976.

543 School and Clinical Programs (2)

Prereq: majors only. (winter). Organization, planning and function in public school, community and agency programs. Prerequisite to student teaching.

Itele, W; Y; 1975.

544 Disorders of Language (4)

Prereq: 510, 518 or equiv. Introduction to study of language disorders in children. Diagnosis, assessment of language abilities. Methodologies and techniques in perceptual, psychomotor, and language and speech training.

Garber, W; Y; 1976.

545 Social Dialects (3)

Prereq: 509, 510 or equiv. Introduction to study of social dialects. Problems and controversies surrounding issue. Training in recognition of dialectal variations and in teaching standard English to speakers of other dialects.

Foley, Sp; Y; 1976.

571 Auditory Rehabilitation (5)

Prereq: perm. (fall, winter). Basic remedial procedures for hearing handicapped. Practice in planning for speech reading and auditory training.

Christopher, F, W; Y; 1976.

579 Basic Manual Communication (2)

Prereq: HSS majors perm. Basic instruction and practice in fingerspelling and signing used by and for deaf and hard of hearing.

Christopher, F, W; Y; 1976.

601 Introduction to Graduate Study (4)

Prereq: graduate students only. Nature and critical tasks in discipline of hearing and speech sciences. Scientific research in methodology, controversial issues, and basic behavioral measurements.

Shalloo, Bond, F, Y; 1975.

603 Neuroanatomy of Speech, Language, and Audition (4)

Prereq: perm. Complete study of neuroanatomy with emphasis on speech, language, and auditory processes. Students majoring in speech pathology will receive detailed instruction in anatomical construction of respiration, phonation, and articula-

tion as related to central nervous system. Students majoring in audiology will receive detailed instruction in anatomical construction of audition as related to central nervous system. All students will receive morphological instruction with respect to central nervous system, peripheral nervous system, and autonomic nervous system.

Fucci, Dean; F; Y.

611 Phonetics II (4-5)

Prereq: perm. Phonetics in linguistics; experimental investigation of speech sound production; advanced training in phonetic transcription.

F, W, Sp, Su; D; 1972.

680 Advanced Manual Communication (2)

Prereq: 579 or equiv. Advanced instruction and practice in fingerspelling and signing used by and for the deaf and hard of hearing.

Christopher; W, Sp; Y; 1976.

695 Thesis (1-15)

F, W, Sp, Su; D; 1976.

702 Research Methods in Speech and Hearing (1-3)

Research methodologies and critical examination of existing research. Required of all thesis and dissertation students. May be repeated for credit. No more than 3 hrs count toward degree.

F, W, Sp, Su; D; 1974-1975.

711 Management of Language Disorders in Children (4)

Prereq: perm. Intended to provide graduate students in speech pathology with in-depth knowledge of language intervention strategies for children exhibiting disorders of language. Areas of therapy considered will include development of prelinguistic skills, as well as semantic and grammatical aspects of comprehension and production.

Garber, Fokes; Sp; Y.

712 Theories in Language Acquisition and Behavior (4)

Prereq: perm. Language and cognitive development, verbal learning and structural properties of speech.

Fokes; Sp; Y; 1976.

713 Developmental and Disordered Phonology (4)

Prereq: perm. Offered for students concerned with phonological problems associated with an overall language disorder. Students majoring in speech pathology will receive instruction in theories of phonological acquisition, stages of development, descriptions of deviant systems, methods of data collection and analysis, and suggestions for remediation.

Bond, Fokes; F; Y.

717 Disorders of Fluency (4)

Stuttering related to theory, research, and therapy. Students select and develop area of interest.

Dean; Sp; Y; 1976.

720 Seminar in Articulation (4-5)

Prereq: perm. Historical development, research and theoretical approaches to articulation, experimental applications to therapy.

Staff; F, W, Sp, Su; D; 1975.

721 Advanced Disorders of Voice (4)

Prereq: perm. Review of anatomy and normal physiology of vocal mechanism. Organic and functional voice problems and related therapy. Research problems in diagnosis and therapy.

Dean, Fucci; W; Y; 1976.

723 Advanced Diagnostic Procedures in Speech and Language Disorders (4)

Prereq: perm. Special evaluative techniques in speech pathology, laryngeal examinations, differential diagnosis, special diagnosis and tests.

Ham; Sp; Y; 1976.

724 Neurological and Structural Disorders of Articulation (4)

Prereq: perm. Intended to provide graduate students with an in-depth knowledge of nature and habilitation of motor speech disorders of organic etiology. Primary focus on articulation disorders resulting from structural lesions and muscle incoordination and weakness.

Dean, Isele; W; Y.

725 Seminar in Clinic Administration (1-4)

Prereq: perm. Organization and administration of clinical and academic programs in speech pathology and audiology.

Staff; Su; D; 1973.

726 Language Problems of the Mentally Retarded (4)

Prereq: graduate majors only. Evaluating level of language development of trainable mentally retarded children. Techniques for assisting mentally retarded children to develop language.

Fokes, Garber; F; Y; 1975.

727 Medical/Surgical Aspects of Communication Disorders (4)

Prereq: graduate majors only. Discussion of medical and surgical treatments for various speech and hearing disorders. Readings in medical literature and familiarization with terminology and philosophies of treatment.

Isele; Sp; Y; 1976.

728 Clinical Procedures for the Neurologically Impaired Child (4)

Prereq: perm. Causes, evaluation, and training procedures for children with language deficiencies resulting from early brain damage.

Fokes; Su; Y; 1975.

729 Aphasia (4)

Prereq: graduate student majors only. Aphasia, etiologies in adult aphasia, evaluation and rehabilitation of adult aphasic.

Dean, Christopher; F; Y; 1975.

730 Cerebral Palsy (3)

Prereq: perm. Cerebral palsy, etiologies, related problems; theories and procedures for habilitation.

Dean, Fucci; D; 1975.

731 Seminar in Speech Pathology (4-5)

Prereq: perm. Current literature and recent research, changing topic each qtr. (May be repeated for credit.)

F, W, Sp, Su; D; 1975-76.

732 Seminar in Supervision (1-4)

Prereq: perm. Preparation of advanced students for employment in teaching-training programs and service centers. Individual assignments and specific experience in supervision of diagnostics, therapy and research, plus administrative supervision.

Staff; F, W, Sp, Su; D; 1970-71.

733 Professional Training Seminar (3-5)

Prereq: perm. Special topics, changed each offering. Development of special interest areas and innovative procedures. (May be repeated for credit.)

Staff; F, W, Sp, Su; D.

734 Seminar in Voice (1-4)

Prereq: 721 or perm. Advanced phonatory theory, recent research in phonation, problems related to vocal pathologies. Students select and develop areas of interest.

Fucci; F, W, Sp, Su; D; 1973-74.

735 Practicum in Diagnosis and Therapy (1-15)

Diagnosis, planning of therapy, therapy experience. 1 staff meeting per wk. May be repeated. Credit beyond 3 hrs must be approved.

Isele; F, W, Sp, Su; Y; 1975-76.

736 Clinical Internship (1-15)

Prereq: 3 qtrs of graduate practicum experience. Approval of coordinator of clinical services. Graduate students will be placed in clinical facilities for one quarter of experience. Facilities used may be on campus or cooperating clinics or agencies in other areas. It is expected that the student will experience all types of diagnostic or therapy practicum during this quarter, under the supervision of a certified therapist or audiologist. Placements may be made on a part-time basis, with 1 minimum assignment being 3 full days per wk.

Staff; F, W, Sp, Su; Y.

752 Experimental Phonetics I (4)

Prereq: perm. Acoustic properties of speech signals and study of speech production. 3 lec and required lab.

Bond; W; Y; 1976.

753 Experimental Phonetics II (4)

Prereq: 752 or equiv. Acoustical and physiological phonetics relating to speech perception. 3 hrs lec and 2 hrs lab required per wk.

Bond; Sp; D; 1976.

754 Experimental Instrumentation (4)

Prereq: perm. Instrumentation utilized in audiology and speech science.

Shallop; Sp; D; 1975.

755 Seminar in Speech Science (1-4)

Prereq: perm. Topics in speech science and related areas. Required papers.

Bond; D; 1975.

756 Seminar in Research Problems (1-4)

Prereq: perm. Organization and preparation of research in scholarly form. Analysis and evaluation of research writing in various areas. Required application of principles to seminar projects.

Staff; F, W, Sp, Su; D; 1974-75.

761 Psychosocial Aspects of Hearing Impairment and Modes of Communication for the Aurally Handicapped (4)

Prereq: perm. Provides students with knowledge and skills to enable them to function competently when providing service to a hearing-impaired client. Prepares audiologist/speech pathologist to understand better semantics of deafness as well as alternate modes of communication as used by those who are hearing impaired.

Christopher; Sp; Y.

762 Advanced Aural Rehabilitation (4)

Prereq: perm. Provides students with knowledge and skills to enable them to function competently as (re)habilitative audiologists. Prepares audiologist to structure and execute programs of (re)habilitation for hearing impaired in clinical and/or educational settings.

Christopher, Shallop; W; Y.

763 Pediatric Audiology (4)

Prereq: perm. Provides graduate students with information and skills in pediatric audiology. Students will develop competence in assessment of hearing of infants and preschool children. Emphasizes etiological factors of hearing loss, development of auditory function and behavior, and assessment techniques.

Isele, Shallop; F; Y.

764 Industrial Audiology and Hearing Conservation (4)

Prereq: perm. Provides students with essential information and skills to enable them to perform professional roles of an audiologist in an industrial setting and/or manage a hearing conservation program. Prepares students for responsibilities of an audiologist in hearing conservation programs which require hearing testing of large populations.

Isele, Shallop; W; Y.

772 Clinical Audiology for Speech Pathologists (4)

Prereq: perm. Attempts to provide speech pathologist with basic understanding of various audiological procedures used in hearing evaluations with children and adults. Discussion of methodology, procedures, interpretation of results, and application to rehabilitation procedures included. Lab time to learn basic instrumentation and test procedures provided.

Isele, Shallop; F; Y.

773 Clinical Audiology I—Differential Diagnosis of Auditory Disorders (4)

Prereq: perm. Emphasis on test batteries which may reveal cochlear versus retrocochlear and functional versus organic hearing problems.

Isele, Seaton; F; Y; 1975.

774 Clinical Audiology II—Hearing Aids and Amplification Systems (4)

Prereq: perm. Clinical hearing aid selection and counseling procedures. Lab practice with electroacoustic measurements of aids and testing methodologies.

Isele, Shallop; W; Y; 1976.

775 Clinical Audiology III—Electrophysiological and Electroacoustical Measurements (4)

Prereq: perm. Electrophysiological and electroacoustical measurements as applied to human hearing with emphasis on ERA and measurements of middle ear function.

Shallop; Sp; Y; 1975.

776 Experimental Audiology I: Psychoacoustics (4)

Prereq: 6 hrs audiology above 600 level. Application of standard psycho-physical techniques and theory of signal detection to audiological research.

Seaton; W; Y; 1976.

777 Experimental Audiology II: Bioacoustics (4)

Prereq: 6 hrs of audiology above 600 level. Ear as transducer and analyzer; electrophysiological and mechanical properties of ear.

Shallop; F; Y; 1975.

778 Seminar in Audiology (1-4)
Prereq: perm. Current problems and areas of research. Individual reading projects and seminar reports.

Seaton, Shalloo, F. W., Sp., Su., D. 1975

791 Directed Study and Research (1-15)
Must be approved by staff prior to registration. Final product reviewed by faculty committee. May be repeated for credit.

F., W., Sp., Su., D. 1975-76

895 Dissertation (1-15)
F., W., Sp., Su., D. 1975-76

HISTORY

The graduate program in history is intended principally to prepare students for secondary school teaching and teaching at the college level. Each applicant is expected to have completed 24 semester hours or 36 quarter hours of undergraduate history courses, including basic survey courses in European and American history or their equivalent, and at least three semester-length or four quarter-length courses at the junior-senior level. Exceptions to this requirement may be considered for applicants with outstanding undergraduate records in other fields.

MASTER'S PROGRAM

An MA program is offered with work in the history of the United States, Europe, Latin America, Africa, Middle East, and East and Southeast Asia. Thesis and nonthesis programs are available. The general requirement for the MA in the thesis program is 32 quarter hours of coursework plus a 16-quarter hour thesis-seminar combination. The general requirement for the nonthesis is 48 quarter hours of graduate courses including one seminar. No foreign language is required for admission to the program, but students in the thesis program must demonstrate a reading proficiency in one foreign language prior to submission of the thesis. The nonthesis MA program (M.A.T. equivalent) is usually regarded as terminal.

DOCTORAL PROGRAM

The candidate must offer a minimum of six quarters of residence credit as a full-time equivalent student beyond the master's degree. Each candidate is required to show reading proficiency in at least two foreign languages where language training is essential to major research. He or she must also complete a minor of 15 graduate hours in one cognate field or 18 hours in two cognate fields. Within his or her area of concentration the student will select two special fields, in one of which he or she will write the dissertation. The student will also choose two special fields outside the area of concentration. Areas of concentration are as follows:

Area One: American History: Colonial, 19th Century, 20th Century, U.S. Foreign Relations

Area Two: European: Western Europe, European Diplomacy, Tudor-Stuart England, England since 1713, Balkans, Russia, Renaissance and Reformation, Medieval, Ancient

Area Three: Third World: Africa, Southeast Asia, East Asia, Middle East and Mediterranean, Latin America

500A Colonial America to 1689 (5)
English background, establishment of settlement, first economies, evolution of political and religious structures. Relations with England, internal conflicts, Glorious Revolution.

Steiner, Y.

500B Colonial America 1689-1763 (5)
Governmental changes, credit and currency. Great Awakening, cultural developments. Old Colonial System, Anglo-French rivalry, nature of colonial society, problems of maturing political units.

Steiner, Y.

500C Revolutionary Era, 1763-1789 (5)
Causes of American Revolution and struggle for independence.

Staff, Y.

501A Founding the American Republic: Confederation to Constitution, 1789-1815 (5)
Confederation, movement for new government, framing of Constitution, establishment of government during Washington's and Adams' terms.

Staff, D.

506A Sectional Controversy: 1815-1836 (5)
Slavery and political controversy, rise of common man, problems and implications of Jacksonian democracy.

Staff, Y.

506B Sectional Controversy: 1836-1850 (5)
Sectional tensions evolving from political controversy, economic conditions and territorial expansion and attempts to compose differences during period 1836 to 1850.

Staff, Y.

508A Foundations of Modern America: Civil War, 1850-1865 (5)
Intensive examination of period 1850 to conclusion of Civil War, with special reference to forces causing increased sectionalism in the 1850s. Rise of new political movements and leaders; military engagement; society and institutions in North and Confederacy during wartime.

Field, Y.

508B Foundations of Modern America: Reconstruction and New South after 1865 (5)
U.S. in years following the Civil War: administrations of Andrew Johnson and Ulysses S. Grant; reconstruction policies for South and restoration of home rule in that region; southern regional development to end of 19th century.

Field, Y.

508C Foundations of Modern America: Gilded Age, 1877-1901 (5)
U.S. in late 19th century with emphasis upon role of agrarian, labor and reform movements in increasingly industrial and urban society; role of political parties in Gilded Age.

Field, Y.

510A United States in Recent Times, 1900-1920 (5)
Progressive Era, American imperialism, WW I rejection of Wilsonian liberalism.

Lobdell, Hamby, Y.

510B United States in Recent Times, 1920-1939 (5)
Temper and culture of 20s; Republican ascendancy and Democratic revival; Great Depression. F. D. Roosevelt and New Deal.

Lobdell, Hamby, Y.

510C United States in Recent Times, Since 1939 (5)
Abandonment of isolation, WW II, American politics in later Roosevelt years, Cold War; Truman and Fair Deal, politics and problems of 50s and 60s.

Lobdell, Hamby, Y.

512 History of Industrial Revolution in the United States, 1850-1917 (5)
Origins of factory system, impact of Civil War, rise of heavy industries, problems of financing and control; influence of progressive era.

Daniel, D.

514A Social and Cultural History of the United States, 1607-1820 (5)
Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Puritanism, Unitarianism and nationalism.

Daniel, Y.

514B Social and Cultural History of the United States, 1820-1890 (5)
Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Romanticism, Social Darwinism and Pragmatism.

Daniel, Y.

514C Social and Cultural History of the United States, 1890 to present (5)

Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Pragmatism and Existentialism.

Daniel, Y.

514D American Social Thought to 1815 (5)
Major aspects of intellectual history of American colonies and the United States to 1815, organized around 2 major themes: Puritanism, and the secularization of American thought in the 18th century.

Alexander, Y.

514E American Social Thought, 1815-1890 (5)
Major aspects of intellectual history of the United States, 1815-1890, stressing rise of romantic nationalism, triumph of democratic attitude, slavery controversy, impact of Civil War and Darwinian evolution.

Alexander, Y.

514F American Social Thought, 1890 to the Present (5)

Major aspects of intellectual history of the United States since 1890, with principal attention to continuing impact of evolutionary naturalism, especially in development of pragmatism, trends in liberal and conservative political ideologies, rise of pessimistic theology and its ramifications, modernism in the arts, New Radicalism and Counter Culture.

Alexander, Y.

515A History of the Black Man in America to 1860 (5)

Beginning with introduction of slavery in 1619, course deals with black man's role in America to beginning of the Civil War. Concerns slavery, abolition and the man's attempts by black people to improve their position.

Fletcher, Y.

515B History of the Black Man in America Since 1860 (5)

Emancipation and its continuing effects on the black man in America. Life in the South, migration to the North and conservative and radical attempts by the black community to deal with these problems.

Fletcher, Y.

516A History of United States Foreign Relations to 1898 (5)

U.S. foreign relations from War of Independence to Spanish-American War. Development of traditional policies: isolationism, neutrality, Monroe Doctrine, and emergence of American approach to foreign policy.

Staff, Y.

516B History of United States Foreign Relations, 1898-1939 (5)

American foreign relations from War with Spain to outbreak of WW II. Attempts to adjust traditional policies and attitudes to new conditions produced by changes in world power structure and rise of U.S. as great power.

Staff, Y.

516C History of United States Foreign Relations, Since 1939 (5)

WW II and revolution in American foreign relations, Cold War and containment, search for peace and security in revolutionary era.

Staff, Y.

517A Ohio History to 1851 (5)

Founders and Indians, Anglo-French rivalry, Revolution, territorial development, patterns of settlement, Constitution of 1802, evolution of political parties, transportation and economy, banking and currency, Constitution of 1851.

Staff, Y.

517B Ohio History Since 1851 (5)

Slavery and restructuring of political parties, Civil War, rise of industry, politics in progressive era, Great Depression and aftermath, post-WW II Ohio.

Staff, Y.

518A Westward Movement: from Atlantic Seaboard to the Mississippi (5)

Expansion from first settlements on Atlantic seaboard to the Mississippi, explorations, Indian trade, land policies, pioneer life, territorial development and state making.

Staff, D.

518B Westward Movement: Trans-Mississippi West (5)

Territorial acquisitions, trails and exploration, Indian affairs, railroads and types of later frontiers; influence of West upon American ideals and institutions.

Staff; D.

520 History of the Middle West (5)

Development of political, economic and social institutions; attitudes characteristic of Ohio and Middle West since 1787. Emphasis on 20th century community relationships, problems and forms of behavior.

Staff; D.

521A History of the Military in America: 1600 to 1898 (5)

Military institution in American history; role of technology in warfare, innovations and reforms in the military; war and its conduct; military and civilian society in war and peace.

Fletcher; Y.

521B History of the Military in America: 1898 to Present (5)

Continuation of 521A.

Fletcher; Y.

522 Latin America in the 19th Century (5)

Causes of wars for independence; institutional adjustments during and after wars; problems of regionalism and caudillism; influence of liberalism and positivism in shaping Latin America republics; emphasis on Argentina, Brazil and Mexico.

Staff; Y.

523A Latin America: Colonial (5)

Prereq: perm. Pre-Columbian civilization; conquest and colonization; evolution of institutions; wars for independence.

Staff; Y.

523B Latin American Survey, National Period (5)

Demolition of colonial order and struggle for nationality in 19th century; 20th century reform, revolution and development of modern nation states.

Staff; Y.

525 Inter-American Relations (5)

Prereq: perm. Diplomatic history of Latin America since independence; state-to-state relations within Latin America; relations with U.S., western Europe and communist nations; participation in world wars and in international organization.

Staff; Y.

526A Recent Latin America: Argentina, Brazil and Mexico in the 20th Century (5)

Reshaping and modernization of Mexico by revolution. Struggle to convert Argentine and Brazilian regionalisms, divided societies and resources into modern, urban, integrated nations.

Staff; Y.

526B Recent Latin America: Andean Nations in the 20th Century (5)

Varied experience of Andean republics under onset of modernization.

Staff; Y.

526C Recent Latin America: Central America and the Island Republics in the 20th Century (5)

Influence of the U.S.: search for nationality and modernization. Special attention to Cuban history.

Staff; Y.

528 Greece in the 5th Century B.C. (5)

Political, social and cultural institutions of Greece in 5th century B.C. with special emphasis on city of Athens.

Richter; Y.

533 Oil, Energy, and International Diplomacy (5)

Prereq: graduate rank (MA). Historical perspective on continuing energy crisis. Focuses attention on development of world-wide petroleum industry with particular attention to Middle East and North Africa; shows role of oil as generator of international tensions.

Doxsee; D.

534 The Arab-Israeli Dispute (5)

History of Arab-Israeli confrontation since 1890. Origins of Zionism and Arab Nationalism, impact of WW I and Peace Settlement, British Mandate for Palestine, political developments in Israel and

Arab World since 1948 and recent Great Power involvement in problem.

Doxsee; Y.

535A Middle East History to 1800 (5)

Islamic history and civilization from rise of Islam to end of 18th century. Role of prophet Muhammad, doctrines and institutional system of Islam, medieval Islamic caliphates and their cultural achievements and contributions of Persians and Turks to Islamic civilization.

Doxsee; Y.

535B Middle East History Since 1800 (5)

History of Middle East since era of French Revolution. Disintegration of Ottoman Empire; emergence of contemporary Middle East political system; impact of nationalism, secularism and industrialism on the region, and position of Middle East in contemporary world affairs.

Doxsee; Y.

536A North Africa in Modern Times (5)

The Maghrib: its geography, ethnic composition and history since antiquity; French conquest of Algeria, Tunisia and Morocco; administrative systems; economic development; French-Muslim relations.

Doxsee; Y.

536B North Africa Since 1914 (5)

Rise of nationalism; struggle for political independence; political, economic and social problems in independent North Africa.

Doxsee; D.

538A History of East Africa (5)

History of East Africa from early times to present, with emphasis on period since 1750. Although neighboring countries also studied, greatest attention paid to region which comprises present day Kenya, Uganda and Tanzania.

Miers; Y.

538B History of West Africa (5)

History of West Africa from early times to present: peopling of sudanic and forest regions; development of trade; Islam and rise of sudanic empires; slave trade and forest states; colonial era; independence movements; problems of nationalism.

Booth; Y.

541A Africa to the 17th Century (5)

Africa in the ancient world; spread of agriculture and iron working; rise of Islam; migrations of peoples; developing of states; arrival of Europeans.

Miers; Y.

541B Africa from the 17th to the Late 19th Century (5)

Africa in 17th century; slave trade; religious revolutions in western Sudan; development of African states; commercial revolution of 19th century; birth of plural society in South Africa; European partition of Africa.

Miers; Y.

541C Africa from the Late 19th Century to the Present Day (5)

Establishment of European rule in Africa; colonial period; rise of nationalism; decolonization and independence; problems of modern Africa.

Miers; Y.

542A History of South Africa to 1899 (5)

Ancient man; Bantu migrations; coming of Europeans; conflict between Bantu, Boer and Briton. Rise of Zulus and Wars of Calamity; rise of colonial tensions and origins of Boer War.

Booth; Y.

542B South Africa in Recent Times (5)

Boer War; Union of South Africa; rise of parties and Age of the Generals. WW I; industrial and social conflict; WW II; Election of 1948 and emergence of Afrikaner nationalism.

Booth; Y.

544A History of Malaysia (5)

Political and cultural history of Malaysian or Indonesian peoples from 8th century A.D. through the mid-20th century. Indigenous values and institutions. Modification or displacement by experience with imperialism and modernization.

Staff; D.

544B Burma and Thailand in Modern Times (5)

Comparative study of neighboring Buddhist states, their origins, their interrelations historically and culturally, varying impact of the colonial period and problems of post-war modernization.

Staff; D.

544C History of Vietnam (5)

Assessment of the impact of 1000 years of Chinese rule to 939, development and expansion of the Vietnamese state to its decline in the late 19th century, the French colonial impact, achievement of independence by 1954 and relations of North and South in recent times.

Staff; D.

544D Chinese in Southeast Asia (5)

Analytical survey of 2000 years of Chinese participation in affairs of Southeast Asia. Topics include Chinese role in Vietnam, Chinese imperialism in Southeast Asia, the Tribute System, immigration of Chinese into the area, their relationships with European colonial authorities and indigenous peoples and 20th century political problems.

Jordan; Y.

545A Southeast Asia to 1820 (5)

Southeast Asian peoples, economic life, institutions and cultures, including borrowings from India and China; origins, classical period, European commercial impact down to post-Napoleonic period.

Frederick; Y.

545B Southeast Asia: 1820-1945 (5)

Southeast Asia in early 19th century, British-Indian commercial hegemony, development of imperialist rivalry, patterns of investment, colonialism, its effects on Southeast Asian peoples, emergence of nationalistic protests between world wars, Japanese conquest and occupation.

Frederick; Y.

545C Post-War Southeast Asia: Independence Problems (5)

Situation at end of war, achievement of independence, economic development and government problems; revolutions in Indochina; drift toward military rule in Thailand, Burma, South Vietnam, Indonesia; world orientation and America's role; regional prospects.

Frederick; Y.

546A Traditional China to 1800 (5)

Growth and interaction of principal political, social and economic institutions of China from prehistoric times to decline of Imperial system in 1800s.

Jordan; Y.

546B Modern China (5)

Weakness of empire in 1800s confronted by dynamic Western economic and political imperialism; response to pressures of nationalism from without and from within; great flux in modern Chinese society and politics.

Jordan; Y.

548A Traditional Japan (5)

Development of Japan's early civilization including indigenous elements and those derived from Korea and China. Political development of Japan leading to its position vis-a-vis the Western nations in the 19th century.

Jordan; Y.

548B Modern Japan (5)

Political weakness of Tokugawa system leading to opening of Japan to Western trade and restoration of Emperor; favorable economic and political base which allowed Japan to enter successfully into competitions with European nations; Japan's ultranational era and post-war reconstruction.

Jordan; Y.

551 Medieval People (5)

Inquiries in depth into lives and epochs of representative individuals of medieval Europe. A look at the Middle Ages through biography.

Reeves; Y.

552 Medieval Civilization (5)

Transmission of Christianity and classical culture to barbarians and their work of combining the 2 into a new civilization in early Middle Ages. Medieval civilization at its height: church, schools and scholastic thought and secular culture.

Reeves; Y.

556A Italian Renaissance (5)

Major political, social, economic and cultural currents of Italian city-states from 1150 to 1550. Focus on Dante, Petrarch, Boccaccio, Bruni, Machiavelli, Guicciardini, Michelangelo, Leonardo da Vinci, etc.

Bebb; Y.

556B Northern Renaissance (5)

History of Renaissance outside Italy: politics, economics, sociology and intellectual currents of Germany, France, Spain, Burgundy and England from 1300 to 1600. Treated thematically, course focuses

on Erasmus, More, Ximenes, Reuchlin, Hutten and Bude, etc.
Rebb; Y.

556C. Reformation (5)
Protestant, Catholic and Counter-Reformations in Europe, showing their relationship to social, political, economic and religious movements of 15th and 16th centuries. Roles of Luther, Zwingli, Calvin, Cranmer, Erasmus, Loyola, etc., Protestant and Catholic Churches and Sects in western and eastern Europe.
Rebb; Y.

558A. Early Modern Europe 1559-1648 (5)
Main political, economic and cultural developments. Rise of dynastic states, wars of religion, ideological struggles.
Baxter; Y.

558B. Early Modern Europe, 1648-1715 (5)
Main political, economic and cultural developments. Over-seas expansion, commercial revolution, rise of absolutism, scientific revolution and Thirty Years' War.
Baxter; Y.

558C. Early Modern Europe, 1715-1774 (5)
Main political, economic and cultural developments. Industrialism and capitalism, absolutism, balance of power, intellectual revolution and Enlightenment.
Baxter; Y.

562A. Europe, 1814-1871 (5)
Europe from Congress of Vienna through Franco-Prussian War. Growth of liberalism and nationalism, revolutions of 1830 and 1848, Industrial Revolution, unification of Italy and Germany, social and intellectual movements.
McGeoch; Y.

562B. Europe, 1871-1914 (5)
Development of Austria-Hungary, France, Italy, Germany, Great Britain and Russia including imperialism. Background of WW I and social and intellectual movements.
McGeoch; Y.

564A. Europe between World Wars (5)
Fascism, communism, world depression and the 20-Year Armistice between 1919 and 1939.
Whealey; Y.

564B. Contemporary Europe (5)
Problems of peace and war in Europe since 1939.
Gustafson; Y.

566A. Modern France in 19th Century (5)
Evolution of France as monarchy, empire and republic.
Chastain; Y.

566B. Modern France in 20th Century (5)
Republican France.
Chastain; Y.

568A. Modern Germany in 19th Century (5)
Germany and Central Europe from age of Napoleon to fall of Bismarck.
Chastain, Gustafson; Y.

568B. Modern Germany in 20th Century (5)
Germany and Central Europe since advent of Wilhelm II.
Chastain; Y.

570. History of the Byzantine Empire 324-1453 (5)
Decay of the Roman world and emergence of a Christian Empire, 324-717; Medieval Roman Empire, 717-1055; weakening of Central Administration and apparent revival under the Comneni, 1025-1204; Byzantium and the neighboring world, 1204-1453; church and state, education and learning; Byzantine art, social, political and military developments.
Kaldin; Y.

572A. Balkans in Early Modern Period, 1453-1804 (5)
Ethnographic structure of Balkan peoples under rule of Ottoman Empire. Ottoman institutions and society, political, social, economic, religious and cultural developments in the Balkans in 15th, 16th, 17th and 18th centuries.
Kaldin; Y.

572B. Balkans in 19th Century, 1804-1878 (5)
Evolution of modern Balkan nationalism and rise of Balkan states. Ottoman dissolution and Balkan revolutionary nationalism, political, social, economic,

religious and intellectual developments, domestic Balkan policy and foreign intervention.
Kaldin; Y.

572C. Balkans in 20th Century, 1878 to Present (5)
Historical, cultural and ethnic background of Balkan peoples. Social, economic, political and intellectual developments in the Balkans, communism of Southeast European states.
Kaldin; Y.

574A. History of European Diplomacy, 1814-1914 (5)
Diplomatic history from Congress of Vienna to WW I. Age of Metternich, Italian and German unification, new imperialism and pre-war alliances and alignments.
McGeoch; Y.

574B. History of International Diplomacy, 1914-1939 (5)
International problems of peace and war, international organization and alliances.
Whealey; Y.

574C. History of International Diplomacy, 1939 to Present (5)
International problems of peace and war on a world wide scale since 1939, international organization and alliances, adjustment to collapse of European imperialism.
Whealey; Y.

576. Men and Power, 1814-1914 (5)
History of power politics in 19th century Europe through study of biographies of European sovereigns, statesmen and diplomats.
McGeoch; D.

579. The Development of Modern Science (5)
Survey of development of science from Renaissance. History of physical and natural sciences in ages of Copernicus, Newton, Linnaeus and Darwin.
Rauschenberg; D.

582A. History of Russia (5)
Russia from earliest times to 1881. Kievan Russia, Muscovy, emergence of Tsarist Russia. Territorial expansion and role as great power in Europe and Asia.
Gustafson; Y.

582B. The Communist Revolution (5)
Tsarist Russia to Soviet Union, 1881-1924; background for revolution. Bolshevik seizure of power and consolidation of dictatorship.
Gustafson; Y.

582C. Soviet Union (5)
Soviet Union since death of Lenin (1924); internal affairs of Communist regime.
Gustafson; Y.

589. Later Medieval England, 1307-1485 (5)
Comprehensive examination of political, social, intellectual, ecclesiastical and economic aspects of period.
Reeves; D.

590A. Tudor England (5)
England in 16th century. Tudor absolutism, English Reformation and major cultural and economic developments of Shakespeare's England.
Harvey; Y.

590B. Stuart England (5)
England in 17th century. Constitutional crisis of Stuart period. Republican experiment under Cromwell, beginnings of Empire and major cultural and economic developments.
Harvey; Y.

591A. English History to 1688 (5)
Survey of institutional aspects of medieval England and social, political and constitutional development in Tudor and Stuart periods.
Rauschenberg; Y.

591B. English History Since 1688 (5)
Emphasizes cultural and economic developments, growth of British Empire, constitutional and social reforms, and impact of WW I and WW II.
Rauschenberg; Y.

592A. United Kingdom in 18th Century (5)
Political, social, intellectual, cultural and economic developments of England in years prior to and during American and French Revolutions.
Rauschenberg; Y.

592B. United Kingdom in 19th Century (5)
History, major political, cultural and economic trends.
Rauschenberg, Richter; Y.

592C. United Kingdom in 20th Century (5)
History, political, cultural and economic developments.
Rauschenberg; Y.

594A. The Medieval English Constitution (5)
English government from Anglo-Saxon times to end of Middle Ages. Growth of machinery of monarchy, central administration, courts and common law. Rise of Parliament.
Reeves; D.

594B. The Modern English Constitution (5)
Emergence of modern English constitution during 16th and 17th centuries. Creation and growth of Tudor Constitution, significance of English Reformation for constitution, Tudor Parliament, "Century of Revolution" (1603-1689) and crisis of constitution; problems of sovereignty and obligation; constitution today.
Harvey; D.

595. History of Canada (5)
Prereq: graduate rank (MA). Introduction to Canada, its exploration and development under France and England, and its emergence as an important modern nation.
Rauschenberg; D.

597A. Representative Historians and Their Writings: American History Emphasis (5)
Typical historians from time of Herodotus. Readings from their masterpieces to illustrate schools of interpretation, philosophies of history and development of historical writing. Noteworthy historians in American history.
Hamb; Y.

597B. Representative Historians and Their Writings: European History Emphasis (5)
Typical historians from time of Herodotus. Readings from their masterpieces to illustrate schools of interpretation, philosophies of history and development of historical writing. Noteworthy historians in European history.
Kaldin; Y.

598A. Problems in History (American) (1-6)
Prereq: 24 hrs. perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff; Y.

598B. Problems in History (European) (1-6)
Prereq: 24 hrs. perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff; Y.

598C. Problems in History (World) (1-6)
Prereq: 24 hrs. perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff; Y.

598D. Problems in History (General) (1-6)
Prereq: 24 hrs. perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff; Y.

600. Seminar: Colonial and Revolutionary America (10)
Prereq: grad rank. Readings and research in U.S. history prior to 1789. Presented in 2-qr sequence. No credit granted until 2nd qr is completed.
Steiner; D.

601A. Colloquium in Colonial American History (5)
Literature and source materials, readings and reports.
Steiner; D.

601B. Colloquium in the Era of the American Revolution (5)
Literature and source materials, readings and reports.
Staff; D.

- 605 Colloquium in Foundation of the American Republic, 1783-1819 (5)
Literature and source materials in field of early national period of American history; readings and reports.
Staff; D.
- 607 Colloquium in Era of Sectional Controversy, 1819-1850 (5)
Literature and source materials; readings and reports.
Staff; D.
- 608 Seminar in United States History, 1850-1900 (10)
Prereq: grad rank. Selected topics in political history of United States in late 19th century. Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Field; D; 1974-75.
- 609 Colloquium in Era of Foundations of Modern America, 1850-1900 (5)
Literature and source materials; readings and reports.
Field; D.
- 610 Seminar in 20th Century United States History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Hamby, Lobdell; A.
- 611 Colloquium in History of the United States in Recent Times (5)
Literature and source materials; readings and reports.
Hamby, Lobdell; A.
- 614 Seminar in the Social, Intellectual and Cultural History of the United States (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Daniel, Alexander; A.
- 615 Colloquium in Social, Cultural and Intellectual History of the United States (5)
Literature and source materials; readings and reports.
Daniel, Alexander; D.
- 616 Seminar in History of United States Foreign Relations (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Staff; D.
- 617 Colloquium in History of American Foreign Relations (5)
Literature and source materials; readings and reports.
Staff; D.
- 621 Colloquium in Regional United States History (5)
Literature and source materials; readings and reports.
Staff; D.
- 623 Colloquium in Latin American History, 1750-1880 (5)
Literature and source materials; readings and reports.
Staff; D.
- 627 Colloquium in Recent Latin American History (5)
Literature and source materials; readings and reports.
Staff; D.
- 629 Colloquium in History of Ancient Greece (5)
Literature and source material of ancient Greek civilization. Themes vary from yr to yr. May be repeated for credit.
Richter; D.
- 635 Colloquium in Middle East History (5)
Literature and source materials on Middle East since 1914; readings and reports.
Doxsee; D.
- 640 Seminar in African History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Booth, Miers; Y.
- 641 Colloquium in African History (5)
Literature and source materials; readings and reports.
Booth, Miers; D.
- 644 Seminar: Southeast Asia (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Staff; D.
- 645 Colloquium in History of Southeast Asia (5)
Literature of Southeast Asian history, general culture, developments in 19th and 20th centuries; readings and reports.
Staff; D.
- 646 Seminar: East Asia History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Jordan; D.
- 649 Colloquium in History of East Asia in Modern Times (5)
Historical literature relating to process of modernization of China and Japan from 1860s to 1960s. Readings and reports.
Jordan; D.
- 657 Seminar in Renaissance-Reformation (10)
Prereq: grad rank. Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Bebb; F, W; D.
- 661 Colloquium in French Revolution (5)
Historical factors as causality, influence of ideology, institutional organization and role of individual in great social upheaval.
Gustavson; D.
- 662 Seminar in 19th Century European History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
McGeoch, Chastain; A.
- 663 Colloquium in 19th Century Europe (5)
Literature and source materials; readings and reports.
McGeoch; D.
- 664 Seminar in 20th Century European History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Gustavson; A.
- 667 Colloquium in Modern France (5)
Literature and source materials; readings and reports.
Chastain; D.
- 674 Seminar in European Diplomacy Since 1815 (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Whealey; D.
- 683 Colloquium in Russian and Soviet History (5)
Literature and source materials; readings and reports.
Gustavson; D.
- 691 Colloquium in English History to 1714 (5)
Early modern English history from multi-disciplinary perspectives.
Harvey; D.
- 693 Colloquium in British History Since 1714 (5)
Literature and source materials; readings and reports.
Rauschenberg; D.
- 695 Thesis (as recommended by dept)
Staff; F, W, Sp, Su; Y.
- 696 Quantitative Methods in History (5)
Prereq: grad rank or consent. Introduction to descriptive and inductive statistical techniques used in historical research and analysis of current literature employing such techniques. Instruction in use of computer included.
Field; F; D.
- 700A Colonial America to 1689 (5)
English background, establishment of settlements, first economies, evolution of political and religious structures. Relations with England, internal conflicts. Glorious Revolution.
Steiner; Y.
- 700B Colonial America 1689-1763 (5)
Governmental changes, credit and currency, Great Awakening, cultural developments. Old Colonial System, Anglo-French rivalry, nature of colonial society, problems of maturing political units.
Steiner; Y.
- 700C Revolutionary Era, 1763-1789 (5)
Causes of American Revolution and struggle for independence.
Staff; Y.
- 704A Founding the American Republic: Confederation to Constitution, 1789-1815 (5)
Confederation, movement for new government, framing of Constitution, establishment of government during Washington's and Adams' terms.
Staff; D.
- 706A Sectional Controversy: 1815-1856 (5)
Slavery and political controversy, rise of common man, problems and implications of Jacksonian democracy.
Staff; Y.
- 706B Sectional Controversy: 1836-1850 (5)
Sectional tensions evolving from political controversy, economic conditions and territorial expansion and attempts to compose differences during period 1836 to 1850.
Staff; Y.
- 708A Foundations of Modern America: Civil War, 1850-1865 (5)
Intensive examination of period 1850 to conclusion of Civil War, with special reference to forces causing increased sectionalism in the 1850s. Rise of new political movements and leaders; military engagements; society and institutions in North and Confederacy during wartime.
Field; Y.
- 708B Foundations of Modern America: Reconstruction and New South after 1865 (5)
U.S. in years following the Civil War; administrations of Andrew Johnson and Ulysses S. Grant; reconstruction policies for South and restoration of home rule in that region; southern regional development to end of 19th century.
Field; Y.
- 708C Foundations of Modern America: Gilded Age, 1877-1901 (5)
U.S. in late 19th century with emphasis upon role of agrarian, labor and reform movements in increasingly industrial and urban society; role of political parties in Gilded Age.
Field; Y.
- 710A United States in Recent Times, 1900-1920 (5)
Progressive Era, American imperialism, WW I, rejection of Wilsonian liberalism.
Lobdell, Hamby; Y.
- 710B United States in Recent Times, 1920-1939 (5)
Temper and culture of 20s; Republican ascendancy and Democratic revival; Great Depression; F. D. Roosevelt and New Deal.
Lobdell, Hamby; Y.
- 710C United States in Recent Times, Since 1939 (5)
Abandonment of isolation; WW II; American politics in later Roosevelt years; Cold War; Truman and Fair Deal; politics and problems of 50s and 60s.
Lobdell, Hamby; Y.
- 712 History of Industrial Revolution in the United States, 1850-1917 (5)
Origins of factory system; impact of Civil War; rise of heavy industry; problems of financing and control; influence of progressive era.
Daniel; D.
- 714A Social and Cultural History of the United States, 1607-1820 (5)
Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Puritanism, Enlightenment and nationalism.
Daniel; Y.
- 714B Social and Cultural History of the United States, 1820-1890 (5)
Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, edu-

cation and science as expressions of Romanticism, Social Darwinism and Pragmatism.

Daniel, Y.

714C Social and Cultural History of the United States, 1890 to present (5)

Role of minorities, class structure and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Pragmatism and Existentialism.

Daniel, Y.

714D American Social Thought to 1815 (5)

Major aspects of intellectual history of American colonies and the United States to 1815, organized around 2 major themes: Puritanism, and the secularization of American thought in the 18th century.

Alexander, Y.

714E American Social Thought, 1815-1890 (5)

Major aspects of intellectual history of United States, 1815-1890, stressing rise of romantic nationalism; triumph of democratic attitude; slavery controversy; impact of Civil War and Darwinian evolution.

Alexander, Y.

714F American Social Thought, 1890 to the Present (5)

Major aspects of intellectual history of United States since 1890, with principal attention to continuing impact of evolutionary naturalism, especially in development of pragmatism; trends in liberal and conservative political ideologies; rise of pessimistic theology and its ramifications; modernism in the arts; New Radicalism and Counter Culture.

Alexander, Y.

715A History of the Black Man in America to 1860 (5)

Beginning with introduction of slavery in 1619, course deals with black man's role in America to beginning of the Civil War. Concerns slavery, abolition and the many attempts by black people to improve their position.

Fletcher, Y.

715B History of the Black Man in America Since 1860 (5)

Emancipation and its continuing effects on the black man in America. Life in the South, migration to the North and conservative and radical attempts by the black community to deal with these problems.

Fletcher, Y.

716A History of United States Foreign Relations to 1898 (5)

U.S. foreign relations from War of Independence to Spanish-American War. Development of traditional policies -- isolationism, neutrality, Monroe Doctrine -- and emergence of American approach to foreign policy.

Staff, Y.

716B History of United States Foreign Relations, 1898-1939 (5)

American foreign relations from War with Spain to outbreak of WW II. Attempts to adjust traditional policies and attitudes to new conditions produced by changes in world power structure and rise of U.S. as great power.

Staff, Y.

716C History of United States Foreign Relations Since 1939 (5)

WW II and revolution in American foreign relations, Cold War and containment, search for peace and security in revolutionary era.

Staff, Y.

717A Ohio History to 1851 (5)

Moundbuilders and Indians, Anglo-French rivalry, Revolution, territorial development, patterns of settlement, Constitution of 1802, evolution of political parties, transportation and economy, banking and currency, Constitution of 1851.

Staff, Y.

717B Ohio History Since 1851 (5)

Slavery and restructuring of political parties; Civil War, rise of industry, politics in progressive era, Great Depression and aftermath, post-WW II Ohio.

Staff, Y.

718A Westward Movement: from Atlantic Seaboard to the Mississippi (5)

Expansion from first settlements on Atlantic seaboard to the Mississippi; explorations, Indian

trade, land policies, pioneer life, territorial development and state making

Staff, D.

718B Westward Movement: Trans-Mississippi West (5)

Territorial acquisitions, trails and exploration, Indian affairs, railroads and types of later frontiers, influence of West upon American ideals and institutions

Staff, D.

720 History of the Middle West (5)

Development of political, economic and social institutions; attitudes characteristic of Ohio and Middle West since 1787. Emphasis on 20th century community relationships, problems and forms of behavior.

Staff, D.

721A History of the Military in America: 1600 to 1898 (5)

Military institution in American history, role of technology in warfare, innovations and reforms in the military; war and its conduct; military and civilian society in war and peace.

Fletcher, Y.

721B History of the Military in America: 1898 to Present (5)

Continuation of 721A.

Fletcher, Y.

722 Latin America in the 19th Century (5)

Causes of wars for independence; institutional adjustments during and after wars; problems of regionalism and caudillism; influence of liberalism and positivism in shaping Latin America republics; emphasis on Argentina, Brazil and Mexico.

Staff, Y.

723A Latin America: Colonial (5)

Prereq: perm. Pre-Columbian civilization; conquest and colonization; evolution of institutions; wars for independence.

Staff, Y.

723B Latin American Survey, National Period (5)

Demolition of colonial order and struggle for nationality in 19th century; 20th century reform, revolution and development of modern nation states.

Staff, Y.

725 Inter-American Relations (5)

Prereq: perm. Diplomatic history of Latin America since independence; state-to-state relations with Latin America; relations with U.S., western Europe and communist nations; participation in world wars and in international organization.

Staff, Y.

726A Recent Latin America: Argentina, Brazil and Mexico in the 20th Century (5)

Reshaping and modernization of Mexico by revolution. Struggle to convert Argentine and Brazilian regionalisms, divided societies and resources into modern, urban, integrated nations.

Staff, Y.

726B Recent Latin America: Andean Nations in the 20th Century (5)

Varied experience of Andean republics under onset of modernization.

Staff, Y.

726C Recent Latin America: Central America and the Island Republics in the 20th Century (5)

Influence of the U.S.; search for nationality and modernization. Special attention to Cuban history.

Staff, Y.

728 Greece in the 5th Century B.C. (5)

Political, social and cultural institutions of Greece in 5th century B.C. with special emphasis on city of Athens

Richter, Y.

734 The Arab-Israeli Dispute (5)

History of Arab-Israeli confrontation since 1890. Origins of Zionism and Arab Nationalism, impact of WW I and Peace Settlement, British Mandate for Palestine, political developments in Israel and Arab World since 1948 and recent Great Power involvement in problem

Dovice, Y.

735A Middle East History to 1800 (5)

Islamic history and civilization from rise of Islam to end of 18th century. Role of prophet Muham-

mad, doctrines and institutional system of Islam, medieval Islamic caliphates and their cultural achievements and contributions of Persians and Turks to Islamic civilization.

Dovice, Y.

735B Middle East History Since 1800 (5)

History of Middle East since era of French Revolution. Disintegration of Ottoman Empire; emergence of contemporary Middle East political system; impact of nationalism, secularism and industrialism on the region, and position of Middle East in contemporary world affairs

Dovice, Y.

736A North Africa in Modern Times (5)

The Maghrib: its geography, ethnic composition and history since antiquity; French conquest of Algeria, Tunisia and Morocco; administrative systems; economic development; French-Muslim relations.

Dovice, Y.

736B North Africa Since 1914 (5)

Rise of nationalism; struggle for political independence; political, economic and social problems in independent North Africa

Dovice, D.

738A History of East Africa (5)

History of East Africa from early times to present, with emphasis on period since 1750. Although neighboring countries also studied, greatest attention paid to region which comprises present day Kenya, Uganda and Tanzania

Mieri, Y.

738B History of West Africa (5)

History of West Africa from early times to present: peopling of sudanic and forest regions; development of trade; Islam and rise of sudanic empires; slave trade and forest states; colonial era; independence movements; problems of nationalism.

Booth, Y.

741A Africa to the 17th Century (5)

Africa in the ancient world; spread of agriculture and iron working; rise of Islam; migrations of peoples; developing of states; arrival of Europeans.

Mieri, Y.

741B Africa from the 17th to the Late 19th Century (5)

Africa in 17th century; slave trade; religious revolutions in western Sudan; development of African states; commercial revolution of 19th century; birth of plural society in South Africa; European partition of Africa.

Mieri, Y.

741C Africa from the Late 19th Century to the Present Day (5)

Establishment of European rule in Africa; colonial period; rise of nationalism; decolonization and independence; problems of modern Africa.

Mieri, Y.

742A History of South Africa to 1899 (5)

Ancient man; Bantu migrations; coming of Europeans; conflict between Bantu, Boer and Briton. Rise of Zulus and Wars of Calamity, rise of colonial tensions and origins of Boer War

Booth, Y.

742B South Africa in Recent Times (5)

Boer War; Union of South Africa, rise of parties and Age of the Generals, WW I; industrial and social conflict; WW II; Election of 1948 and emergence of Afrikaner nationalism.

Booth, Y.

744A History of Malaysia (5)

Political and cultural history of Malaysian or Indonesian peoples from 8th century A.D. through the mid-20th century. Indigenous values and institutions. Modification or displacement by experience with imperialism and modernization.

Staff, D.

744B Burma and Thailand in Modern Times (5)

Comparative study of neighboring Buddhist states, their origins, their interrelations historically and culturally, varying impact of the colonial period and problems of post-war modernization

Staff, D.

744C History of Vietnam (5)

Assessment of the impact of 1000 years of Chinese rule to 939, development and expansion of the Vietnamese state to its decline in the late 19th century, the French colonial impact, achievement of independence by 1954 and relations of North and South in recent times.

Staff, D.

744D Chinese in Southeast Asia (5)

Analytical survey of 2000 years of Chinese participation in affairs of Southeast Asia. Topics include Chinese role in Vietnam, Chinese imperialism in Southeast Asia, the Tribute System, immigration of Chinese into the area, their relationships with European colonial authorities and indigenous peoples and 20th century political problems.
Jordan; Y.

745A Southeast Asia to 1820 (5)

Southeast Asian peoples, economic life, institutions and cultures, including borrowings from India and China; origins, classical period, European commercial impact down to post-Napoleonic period.
Frederick; Y.

745B Southeast Asia: 1820-1945 (5)

Southeast Asia in early 19th century, British-Indian commercial hegemony, development of imperialist rivalry, patterns of investment, colonialism, its effects on Southeast Asian peoples, emergence of nationalistic protests between world wars, Japanese conquest and occupation.
Frederick; Y.

745C Post-War Southeast Asia: Independence Problems (5)

Situation at end of war, achievement of independence, economic development and government problems; revolutions in Indochina; drift toward military rule in Thailand, Burma, South Vietnam, Indonesia; world orientation and America's role; regional prospects.
Frederick; Y.

746A Traditional China to 1800 (5)

Growth and interaction of principal political, social and economic institutions of China from prehistoric times to decline of Imperial system in 1800s.
Jordan; Y.

746B Modern China (5)

Weakness of empire in 1800s confronted by dynamic Western economic and political imperialism; response to pressures of nationalism from without and from within; great flux in modern Chinese society and politics.
Jordan; Y.

748A Traditional Japan (5)

Development of Japan's early civilization including indigenous elements and those derived from Korea and China. Political development of Japan leading to its position vis-a-vis the Western nations in the 19th century.
Jordan; Y.

748B Modern Japan (5)

Political weakness of Tokugawa system leading to opening of Japan to Western trade and restoration of Emperor; favorable economic and political base which allowed Japan to enter successfully into competitions with European nations; Japan's ultranational era and post-war reconstruction.
Jordan; Y.

751 Medieval People (5)

Inquiries in depth into lives and epochs of representative individuals of medieval Europe. A look at the Middle Ages through biography.
Reeves; Y.

752 Medieval Civilization (5)

Transmission of Christianity and classical culture to barbarians and their work of combining the 2 into a new civilization in early Middle Ages. Medieval civilization at its height: church, schools and scholastic thought and secular culture.
Reeves; Y.

756A Italian Renaissance (5)

Major political, social, economic and cultural currents of Italian city-states from 1150 to 1550. Focus on Dante, Petrarch, Boccaccio, Bruni, Machiavelli, Guicciardini, Michelangelo, Leonardo da Vinci, etc.
Bebb; Y.

756B Northern Renaissance (5)

History of Renaissance outside Italy: politics, economics, sociology and intellectual currents of Germany, France, Spain, Burgundy and England from 1300 to 1600. Treated thematically, course focuses on Erasmus, More, Ximenes, Reuchlin, Hutten and Bude, etc.
Bebb; Y.

756C Reformation (5)

Protestant, Catholic and Counter-Reformations in Europe, showing their relationship to social, political, economic and religious movements of 15th and 16th centuries. Roles of Luther, Zwingli, Calvin, Cranmer, Erasmus, Loyola, etc; Protestant and Catholic Churches and Sects in western and eastern Europe.
Bebb; Y.

758A Early Modern Europe, 1559-1648 (5)

Main political, economic and cultural developments. Rise of dynastic states, wars of religion, ideological struggles.
Baxter; Y.

758B Early Modern Europe, 1648-1715 (5)

Main political, economic and cultural developments. Overseas expansion, commercial revolution, rise of absolutism, scientific revolution and Thirty Years' War.
Baxter; Y.

758C Early Modern Europe, 1715-1774 (5)

Main political, economic and cultural developments. Industrialism and capitalism, absolutism, balance of power, intellectual revolution and Enlightenment.
Baxter; Y.

762A Europe, 1814-1871 (5)

Europe from Congress of Vienna through Franco-Prussian War. Growth of liberalism and nationalism, revolutions of 1830 and 1848, Industrial Revolution, unification of Italy and Germany, social and intellectual movements.
McGeoch; Y.

762B Europe, 1871-1914 (5)

Development of Austria-Hungary, France, Italy, Germany, Great Britain and Russia including imperialism. Background of WW I and social and intellectual movements.
McGeoch; Y.

764A Europe between World Wars (5)

Fascism, communism, world depression and the 20-Year Armistice between 1919 and 1939.
Whealey; Y.

764B Contemporary Europe (5)

Problems of peace and war in Europe since 1939.
Gustafson; Y.

766A Modern France in 19th Century (5)

Evolution of France as monarchy, empire and republic.
Chastain; Y.

766B Modern France in 20th Century (5)

Republican France.
Chastain; Y.

768A Modern Germany in 19th Century (5)

Germany and Central Europe from age of Napoleon to fall of Bismarck.
Chastain, Gustafson; Y.

768B Modern Germany in 20th Century (5)

Germany and Central Europe since advent of Wilhelm II.
Chastain; Y.

770 History of the Byzantine Empire 324-1453 (5)

Decay of the Roman world and emergence of a Christian Empire, 324-717; Medieval Roman Empire, 717-1056; weakening of Central Administration and apparent revival under the Comneni, 1025-1204; Byzantium and the neighboring world, 1204-1453; church and state; education and learning; Byzantine art; social, political and military developments.
Kaldis; Y.

772A Balkans in Early Modern Period, 1453-1804 (5)

Ethnographic structure of Balkan peoples under rule of Ottoman Empire. Ottoman institutions and society; political, social, economic, religious and cultural developments in the Balkans in 15th, 16th, 17th and 18th centuries.
Kaldis; Y.

772B Balkans in 19th Century, 1804-1878 (5)

Evolution of modern Balkan nationalism and rise of Balkan states. Ottoman dissolution and Balkan revolutionary nationalism; political, social, economic, religious and intellectual developments; domestic Balkan policy and foreign intervention.
Kaldis; Y.

772C Balkans in 20th Century, 1878 to Present (5)

Historical, cultural and ethnic background of Balkan peoples. Social, economic, political and intellectual developments in the Balkans; communization of Southeast European states.
Kaldis; Y.

774A History of European Diplomacy, 1814-1914 (5)

Diplomatic history from Congress of Vienna to WW I. Age of Metternich, Italian and German unification, new imperialism and pre-war alliances and alignments.
McGeoch; Y.

774B History of International Diplomacy, 1914-1939 (5)

International problems of peace and war, international organization and alliances.
Whealey; Y.

774C History of International Diplomacy, 1939 to Present (5)

International problems of peace and war on a world wide scale since 1939, international organization and alliances, adjustment to collapse of European imperialism.
Whealey; Y.

776 Men and Power, 1814-1914 (5)

History of power politics in 19th century Europe through study of biographies of European sovereigns, statesmen and diplomats.
McGeoch; D.

779 The Development of Modern Science (5)

Survey of development of science from Renaissance. History of physical and natural sciences in ages of Copernicus, Newton, Linnaeus and Darwin.
Rauschenburg; D.

782A History of Russia (5)

Russia from earliest times to 1881. Kievan Russia, Muscovy, emergence of Tsarist Russia. Territorial expansion and role as great power in Europe and Asia.
Gustafson; Y.

782B The Communist Revolution (5)

Tsarist Russia to Soviet Union, 1881-1924; background for revolution. Bolshevik seizure of power and consolidation of dictatorship.
Gustafson; Y.

782C Soviet Union (5)

Soviet Union since death of Lenin (1924); internal affairs of Communist regime.
Gustafson; Y.

789 Later Medieval England, 1307-1485 (5)

Comprehensive examination of political, social, intellectual, ecclesiastical and economic aspects of period.
Reeves; D.

790A Tudor England (5)

England in 16th century. Tudor absolutism, English Reformation and major cultural and economic developments of Shakespeare's England.
Harvey; Y.

790B Stuart England (5)

England in 17th century. Constitutional crisis of Stuart period, Republican experiment under Cromwell, beginnings of Empire and major cultural and economic developments.
Harvey; Y.

791A English History to 1688 (5)

Stresses institutional aspects of medieval England and social, political and constitutional developments in Tudor and Stuart periods.
Rauschenburg; Y.

791B English History Since 1688 (5)

Emphasizes cultural and economic developments, growth of British Empire, constitutional and social reforms and impact of WW I and WW II.
Rauschenburg; Y.

792A United Kingdom in 18th Century (5)

Political, social, intellectual, cultural and economic developments of England in years prior to and during American and French Revolutions.
Rauschenburg; Y.

792B United Kingdom in 19th Century (5)

History; major political, cultural and economic trends.
Rauschenburg, Richter; Y.

792C United Kingdom in 20th Century (5)
History, political, cultural and economic developments
Rauschenberg, F.

794A The Medieval English Constitution (5)
English government from Anglo-Saxon times to end of Middle Ages. Growth of machinery of monarchy, central administration, courts and common law. Rise of Parliament.
Rees, D.

794B The Modern English Constitution (5)
Emergence of modern English constitution during 16th and 17th centuries; creation and growth of Tudor Constitution; significance of English Reformation for constitution; Tudor Parliament; "Century of Revolution" (1603-1689) and crisis of constitution; problems of sovereignty and obligation; constitution today.
Harvey, D.

798A Problems in History (American) (1-6)
Prereq: 24 hrs, perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff, Y.

798B Problems in History (European) (1-6)
Prereq: 24 hrs, perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff, Y.

798C Problems in History (World) (1-6)
Prereq: 24 hrs, perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff, Y.

798D Problems in History (General) (1-6)
Prereq: 24 hrs, perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members.
Staff, Y.

800 Seminar: Colonial and Revolutionary America (10)
Prereq: grad rank. Readings and research in U.S. history prior to 1789. Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Steiner, D.

801A Colloquium in Colonial American History (5)
Literature and source materials; readings and reports.
Steiner, D.

801B Colloquium in the Era of the American Revolution (5)
Literature and source materials; readings and reports.
Staff, D.

805 Colloquium in Foundations of the American Republic, 1783-1819 (5)
Literature and source materials in field of early national period of American history; readings and reports.
Staff, D.

807 Colloquium of the Era of Sectional Controversy, 1819-1850 (5)
Literature and source materials; readings and reports.
Staff, D.

808 Seminar in United States History, 1850-1900 (10)
Prereq: grad rank. Selected topic in political history of United States in late 19th century. Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Field, D.

809 Colloquium in Era of Foundation of Modern America, 1850-1900 (5)
Literature and source materials; readings and reports.
Field, D.

810 Seminar in 20th Century United States History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Hamby, Ibbell, A.

811 Colloquium in History of the United States in Recent Times (5)
Literature and source materials; readings and reports.
Hamby, Ibbell, A.

814 Seminar in the Social, Intellectual and Cultural History of the United States (10)
Presented in 1-qr sequence. No credit granted until 2nd qtr is completed.
Daniel, Alexander, A.

815 Colloquium in Social, Cultural and Intellectual History of the United States (5)
Literature and source materials; readings and reports.
Daniel, Alexander, D.

816 Seminar in History of United States Foreign Relations (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Staff, D.

817 Colloquium in History of American Foreign Relations (5)
Literature and source materials; readings and reports.
Staff, D.

821 Colloquium in Regional United States History (5)
Literature and source materials; readings and reports.
Staff, D.

823 Colloquium in Latin American History, 1750-1880 (5)
Literature and source materials; readings and reports.
Staff, D.

827 Colloquium in Recent Latin American History (5)
Literature and source materials; readings and reports.
Staff, D.

835 Colloquium in Middle East History (5)
Literature and source materials on Middle East since 1914; readings and reports.
Doxey, D.

840 Seminar in African History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Booth, Mier, Y.

841 Colloquium in African History (5)
Literature and source materials; readings and reports.
Booth, Mier, D.

844 Seminar: Southeast Asia (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Staff, D.

845 Colloquium in History of Southeast Asia (5)
Literature of Southeast Asian history; general culture, developments in 19th and 20th centuries; readings and reports.
Staff, D.

846 Seminar: East Asia History (10) 4
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Jordan, D.

849 Colloquium in History of East Asia in Modern Times (5)
Historical literature relating to process of modernization of China and Japan from 1560's to 1960's. Readings and reports.
Jordan, D.

857 Seminar in Renaissance-Reformation (10)
Prereq: grad rank. Presented in 2-qr sequence. No credit granted until 2nd qtr study completed.
Rebb, F, W, D.

861 Colloquium in French Revolution (5)
Historical factors as catalyst; influence of idealism; institutional organization and role of individual in great social upheaval.
Gustafson, D.

862 Seminar in 19th Century European History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
MacGeoch, Chastain, A.

863 Colloquium in 19th Century Europe (5)
Literature and source materials; readings and reports.
MacGeoch, D.

864 Seminar in 20th Century European History (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Gustafson, A.

867 Colloquium in Modern France (5)
Literature and source materials; readings and reports.
Chastain, D.

874 Seminar in European Diplomacy Since 1815 (10)
Presented in 2-qr sequence. No credit granted until 2nd qtr is completed.
Whealey, D.

883 Colloquium in Russian and Soviet History (5)
Literature and source materials; readings and reports.
Gustafson, D.

891 Colloquium in Early Modern English History (5)
Prereq: 24 hrs, perm. Studies in early modern English history from multidisciplinary perspectives.
Rauschenberg, D.

893 Colloquium in British History Since 1714 (5)
Literature and source materials; readings and reports.
Rauschenberg, D.

894 Independent Study (1-16)
Prereq: Eligibility determined by grad faculty.
Staff, F, W, Sp, Y.

895 Dissertation (as recommended by dept)
Staff, F, W, Sp, Su, Y.

896 Quantitative Methods in History (5)
Prereq: grad rank or perm. Introduction to descriptive and inductive statistical techniques used in historical research and analysis of current literature employing such techniques. Instruction in use of computer will be included.
Field, F; D.

HOME ECONOMICS

General Home Economics

Human Development and Family Ecology

Human Nutrition and Food Science

Consumer Service and Education

Human Environment and Design Housing and Management Textiles and Clothing

A student desiring a master's degree with a major in home economics must have a minimum of 20 quarter hours of undergraduate preparation in the field of home economics in which he or she wishes to specialize, and/or in approved related fields. For a student majoring in home economics education, a minimum of 24 quarter hours of undergraduate credit distributed among at least three areas of home economics is required.

A student may take 12 to 14 hours of work in an area of home economics other than his or her major area, or in approved related fields.

All graduate programs in home economics are planned by the student and his or her advisor, taking into consideration the undergraduate training

ing and the professional goals of the student. Requirements vary, depending upon the type of program selected—(a) with thesis, (b) without thesis or (c) interdivisional program.

General Home Economics

579A Workshops in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Special workshops for in-service training of home economics teachers. 579A—home economics education.
Staff; 1973.

579B Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579B—clothing and textiles.
Staff; D.

579C Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579C—food and nutrition.
Staff; D.

579D Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579D—child development.
Staff; D.

579E Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579E—consumer economics.
Staff; D; 1972.

579F Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579F—home furnishings.
Staff; D.

579G Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579G—home management.
Staff; D.

579H Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579H—household equipment.
Staff; D.

579I Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579I—school lunch management.
Staff; D.

579J Workshop in Home Economics (2-6)

Prereq: teaching experience or perm. (summer). Continuation of series beginning with 579A. See 579A for general description. 579J—family life education.
Staff; D.

659A Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Special seminars or workshops for international students or for home economics majors who want to prepare for international service. Lec, lab and field trips. 659A—world food supply and human nutrition.
Staff; D.

659B Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659B—sanitation and health problems.
Staff; D.

659C Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description.

659C—cultural, religious and social influences on family life.

Staff; D.

659D Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659D—cultural, religious and social influences on food patterns and nutrition.

Staff; D.

659E Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659E—working with low-income and disadvantaged families.

Staff; D.

659F Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659F—home and community development, including home management.

Staff; D.

659G Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659G—infant and child care services.

Staff; D.

659H Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659H—establishing home economics extension and other adult programs in developing countries of the world.

Staff; D.

659I Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659I—curriculum studies and evaluation of international home economics programs at elementary and secondary levels.

Staff; D.

659J Home Economics Seminar, Workshop or Short Course in International Service (2-4)

Prereq: perm. Continuation of series beginning with 659A. See 659A for general description. 659J—curriculum studies and evaluation of international home economics programs and research in higher education.

Staff; D.

691A Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Research and recent developments in child development and family life.

Staff; F, W, Sp, Su, D; 1973-74.

691B Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Continuation of series beginning with 691A. See 691A for general description. 691B—foods and nutrition.

Staff; F, W, Sp, Su, D; 1973-74.

691C Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Continuation of series beginning with 691A. See 691A for general description. 691C—home economics education.

Staff; F, W, Sp, Su, D; 1974.

691D Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Continuation of series beginning with 691A. See 691A for general description. 691D—housing and management.

Staff; F, W, Sp, Su, D; 1974.

691E Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Continuation of series beginning with 691A. See 691A for general description. 691E—textiles and clothing.

Staff; F, W, Sp, Su, D; 1974.

691F Seminar in Home Economics (2-4)

Prereq: perm of dept chairman. Continuation of series beginning with 691A. See 691A for general description. 691F—research.

Staff; F, W, Sp, Su, D; 1974.

692 Research (2-4, max 8)

Prereq: perm. Independent investigation in 1 of the 5 areas of home economics.

Staff; F, W, Sp, Su, Y; 1974.

695 Thesis (2-10)

Prereq: approval by chairman of dept in which work is performed.

Staff; F, W, Sp, Su, Y; 1974.

Human Development and Family Ecology

562 Readings in Child Development and/or Family Living (3-6, max 10)

Prereq: perm. Basic research, theory writings, current controversies and trends relative to growth and behavior of children and in family living. Experience in abstracting materials from current sources.

Stricklin, Lockard; F, Sp, Su, Y; 1974.

563 Preschool Administration (5)

Prereq: perm. Problems in organizing and administering preschools, play groups and Head Start programs. Field trips.

Lockard; Sp, Y; 1974.

571 Family Life Education (4)

Prereq: perm. (winter, summer). Selected fundamental educational problems explored. Examination of various dimensions of teacher's role and critical appraisal of student's professional competency to teach classes in family relations. Field trips to selected family life education programs.

Stricklin; W, Su, D; 1974.

664 Advanced Child Development (5)

Prereq: perm. (fall). Theories and principles of child development as advanced by various disciplines. Field work, including independent project.

Stricklin; F, Y; 1974.

665 Parent Education (4)

Prereq: 562. Supervised experience in organizing, formulating, conducting and evaluating discussion groups, classes, programs and individual conferences for parents and youth leaders. One qtr advanced registration with department of child development and family life required.

Nehls; Sp, Y; 1974.

669 Studies in Child Development (2-5)

Prereq: 562. Depth study in selected area.

Nehls; F, W, Sp, Su, D; 1974.

674 Advanced Family Development (5)

Prereq: 562. Specific conceptual schemes of major theorists in various areas of home economics relative to broad issues of philosophy and values. Consideration of differential amenability of various areas in procedures to problems of family development.

Stricklin; Sp, Y; 1973.

675 Introduction to Principles of Family Consulting (4)

Prereq: 674 or perm. Development of operational definitions, theoretical formulations and illustration applicable to its uniqueness

Stricklin; D.

679 Studies in Family Relationships (2-5)

Prereq: 562. Depth study in selected area.

Stricklin; F, W, Sp, Su, D.

Human Nutrition and Food Science

522 Experimental Foods (4)

Prereq: perm. (spring). Factors which affect results obtained from food processes. Experimental work under controlled conditions. 2 lec, 3 lab.

Lewis; Sp, Y; 1974.

523 Comparative Studies in Food (4)
Prereq: perm. (winter). Factors affecting palatability and nutritive value of foods; taste panels, preference surveys, elements of food industry. 2 lec, 3 lab.
Leau; W; Y; 1974

525 Readings in Foods and Nutrition (2-4, max 8)
Critical review of current literature with emphasis on modern theory and practice in food preparation and production or nutrition.
Leau, Sullivan; D; 1974.

526 Cultural and Nutritional Aspects of Foods (3)
Prereq: perm. (fall). Food patterns and practices of various cultural groups. Evaluation of these patterns in meeting dietary needs and factors contributing to these patterns.
Wade; F; Y; 1973.

528 Advanced Nutrition (4)
Prereq: perm. (fall). Nutrition and evaluation of current research as applied to dietary practices for all age groups. Computation of nutritive values of dietaries. 2 lec, 4 lab.
Sullivan; F; Y; 1973.

529 Community Nutrition (3)
Prereq: perm. (spring). Nutrition needs and practices in agencies serving community such as social welfare, home economics extension, public health and school lunch. Nutrition work with low-income families. Some field work. 2 lec, 2 lab.
Sullivan; Sp; Y; 1974.

530 Diet Therapy (4)
Prereq: perm. (winter). Principles of nutrition in feeding individuals. Use of diet in prevention and treatment of disease. Problems in planning and preparing therapeutic diets.
Sullivan; W; Y; 1974.

531 Studies in the Science of Nutrition (3-4, max 8)
Nutrition as related to physiological and metabolic processes. Review and critical analysis of research in field. 2 lec, 3 lab.
Sullivan; D; 1974.

532 Infant and Child Nutrition (3)
Prereq: perm. (fall). Dietary factors related to nutritional status in pregnancy, infancy, preschool and school age children. Contribution of nutrition education and school lunch program in school curriculum. 2 lec, 2 lab.
Sullivan; F, Sp; Y; 1974

535 Purchasing and Cost Control (4)
Prereq: perm. (winter). Production, distribution and storage of food supplies. Purchase of such commodities for quantity use. Cost control system. 2 lec, 4 lab.
Sullivan; W; Y; 1974.

536 Equipment, Maintenance and Layout (4)
Prereq: perm. (winter). Food service layout, selection of equipment and furnishings; materials, construction, installation, operation, care and relative cost. 3 lec, 2 lab.
Sullivan; W, Y; 1974.

537 Organization and Management (3)
Prereq: perm. (spring). Organization and administration applied to food service operations in public and private institutions. Administration of labor and standards of work.
Sullivan; Sp; Y; 1974

538 Advanced Food Production Management (2-4)
Prereq: perm. (winter). Individual studies and laboratory experiences in management of personnel and cost control procedures.
Sullivan; W, Y, 1974

624 Advanced Food Science (3-4)
Prereq: perm. Chemical and physical behavior of basic food constituents and their influence on characteristics and nutritive value of foods.
Leau; D

626 Methods of Food and Nutrition Investigation (3-4, max 8)
Prereq: (3) or (4). Biological and chemical methods used for analysis of various nutrients and constituents in foods and biological materials. Nutrition research using human subjects or food technology.
Sullivan; D; 1973.

627 Studies in Foods and Nutrition (3-5, max 10)
Prereq: (3) or (4). Intensive study of selected topics in foods or nutrition. May include lab work.
Leau, Sullivan; D; 1973.

Consumer Service and Education

543 Vocational Home Economics (4)
Prereq: teaching experience in home economics (summer). History and philosophy of vocational homemaking education. Contemporary trends, methods, sources of materials and evaluation. Observation arranged.
Sellers; Su; Y; 1973.

544 Home Economics in Adult Education (4)
Prereq: perm. Organization procedures, curriculum materials and methods of conducting adult education groups in education for family living and wage earning.
Sellers; W; Y; 1974.

545 Current Developments in Home Economics Education (4)
Prereq: perm. Trends and development at secondary and post-high school levels in relation to curricular developments, evaluation procedures, legislation affecting programs and research.
Sellers; Su; Y; 1973

550 Problems in Teaching Home Economics (2-4, max 6)
Prereq: teaching experience. Individual problems.
Slater, Sellers; F, W, Sp, Su; D; 1974

640 Supervision in Home Economics (4)
Prereq: teaching experience in home economics. Leadership functions, principles and practices involved in effective supervision in home economics. For those interested in supervising student teachers or in-service programs at local, state or national level.
Sellers; Sp; Y; 1974

646 Home Economics in Higher Education (4)
Prereq: perm. Basic philosophy and issues concerning place of home economics in higher education today. General trends in curriculum offering, teaching practices, evaluation, administration and research. For those interested in teaching home economics at college level.
Sellers; F; 1973.

650 Studies in Home Economics Education (2-4, max 8)
Prereq: teaching experience in home economics. Intensive study of some phase of home economics education.
Slater, Sellers; F, W, Sp, Su; D, 1974

Human Environment and Design Housing and Management

580 Advanced Home Furnishings (3)
Prereq: perm. (fall, winter). Qualities and styles of furniture and furnishings. Emphasis on periods of past and their esthetic influence on present. Practical projects in decorating and furnishing a home.
Langford; F, W; Y; 1974.

581 Contemporary Design in Furnishing (3)
Prereq: perm. (spring). Furnishings and interiors of present era. Factors that have influenced development of contemporary design; important designers and their work.
Langford; Sp; Y; 1974

582 Design in Home Accessories (3)
Prereq: perm. (winter). Esthetic study of development of design in accessories of glass, pottery, oriental rugs, metal such as silver and pewter. Use of accessories in home and in displays.
Mathews; W; Y; 1974.

592 Household Equipment Techniques (3)
Prereq: perm. Critical analysis of home equipment relative to durability and effective use. 1 lec, 4 lab.
Staff; W, D, 1972

595 Advanced Home Management (3)
Prereq: perm. Over-all view of home management; development of its present principles and concepts; contributions of other disciplines to home management.
Staff; W; D; 1972

639 Studies in Household Equipment and/or Management (2-4, max 8)
Prereq: perm. Individual study in selected area of home management and/or household equipment under supervision.
Langford; D

Textiles and Clothing

502 Flat Pattern Design (4)
Prereq: perm. Emphasis on fitting techniques. Use and understanding of commercial patterns. 2 lec, 4 lab.
Goldberry; F, W, Sp; Y; 1974

505 History of Costume and Textiles (3)
Prereq: perm. (fall). Costume and textiles through the ages as reflection of historical period and source for present day design.
Doxee; F; Y; 1974.

507 Textile and Fashion Industry (3)
Prereq: perm. Problems confronting buyer of textile products as related to specific manufacturing situations involved.
Doxee; Sp; Y; 1974.

517 Readings in Textiles and/or Clothing (2-4, max 8)
Prereq: perm. Analysis and interpretation of current writings and research with emphasis on new developments and trends.
Staff; F, W, Sp, Su; D; 1974.

609 Psychological, Social and Economic Aspects of Clothing (4)
Prereq: perm. Contemporary uses and roles of textiles and clothing as affected by economic, social and psychological forces seen in historic perspective.
Doxee; F, Y; 1974

612 Advanced Studies in Clothing (2-4)
Prereq: perm. Advanced problems and techniques in clothing construction. Emphasis on scientific principles of construction and experimental methods and fabrics. 3 lec, 3 lab.
Staff; D; 1974

615 Advanced Studies in Textiles (2-4)
Prereq: perm. Physical and chemical examination of fibers and fabrics with emphasis on application of testing techniques as applied to individual textile studies. 1 lec, lab hrs arranged.
Staff; D; 1974

INDONESIAN

(See Foreign Languages and Literatures)

INDUSTRIAL AND SYSTEMS ENGINEERING

(See Engineering, Industrial and Systems)

INDUSTRIAL TECHNOLOGY

Potential graduate students are expected to have previous undergraduate preparation of at least 36 quarter hours in technically oriented courses. Conditional admission may be granted subject to early completion of specified undergraduate courses, concurrently with beginning graduate studies.

First registration in 681-Research should be during the first or second quarter of study. Recommendation from the departmental graduate committee concerning selection between thesis and nonthesis plans will be given, as based upon the proposal submitted during this course.

526 History and Philosophy (3)
Historical development of industrial education, including philosophy and people associated with various stages of program evolution. 3 lec.
Staff; F, W, Sp, Su; D; 1973.

527 Current Trends (3)
Identification and study of changing patterns as means of prediction and guidance for potential responsibility. 3 lec.
Staff; F, W, Sp, Su; D; 1973.

550 Advanced Work in Technical Areas (3-9)
Extension of capability in technical activity beyond level of basic competence. May be repeated in different areas for maximum credit of 9 hrs. 6 lab.
Staff; F, W, Sp, Su; D; 1975.

557 Program Planning (3)
Curricular development in technical education directed toward specifically identified situations. 3 lec.
Staff; F, W, Sp, Su; D; 1973.

561 Instructional Aids (3)
Construction of aids planned to improve efficiency of teaching process. 6 lab.
F, W, Sp, Su; D; 1970.

562 Programmed Instruction (5)
Existing instructional programming; development of new programmed materials. 2 lec, 6 lab.
F, W, Sp, Su; D; 1970.

565A Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565A: electricity.
Staff; Su; D.

565B Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565B: electronics.
Staff; Su; D.

565C Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565C: metals.
Staff; Su; D.

565D Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565D: woods.
Staff; Su; D.

565E Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565E: plastics.
Staff; Su; D.

565F Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565F: graphic arts.
Staff; Su; D.

565G Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565G: pneumatics.
Staff; Su; D.

565H Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565H: hydraulics.
Staff; Su; D.

565I Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565I: power.
Staff; Su; D.

565J Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565J: crafts.
Staff; Su; D.

565K Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565K: elementary industrial arts.
Staff; Su; D.

565L Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565L: administration & supervision.
Staff; Su; D.

565M Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565M: curricula development.
Staff; Su; D.

565N Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565N: planning & design of industrial arts facilities.
Staff; Su; D.

565O Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565O: innovative programs.
Staff; Su; D.

565P Workshop in Industrial Education (1-6)
Prereq: teaching experience. Special workshop for in-service industrial arts teachers. 565P: ceramics.
Staff; Su; D.

571 Administration and Supervision (3)
Analysis of role of supervisor at various levels under conditions of currently developing programs; development of principles and practices most effective toward success of supervisor. 3 lec.
F, W, Sp, Su; D; 1970.

590 Special Problems (3-5)
Individual experimentation and research of professional problem. Identification of problems and planning effective attack toward potential solution.
Staff; F, W, Sp, Su; D; 1975.

591 Reading in Technology (3, max 9)
Required of all full-time majors when enrolled during fall, winter or spring qtr. Core subject, or guide reading, chosen in consultation with major advisor during 1st wk of term. This may not be in area of current research or other course enrollment. Written abstracts of readings presented weekly.
Staff; F, W, Sp, Su; D; 1975.

581 Research (3-9)
First enrollment is for purpose of selecting and planning potential graduate research. Plan must be approved by graduate committee before the project is conducted. Campus registration required during term that final report is being prepared.
Staff; F, W, Sp, Su; D; 1976.

691 Seminar (3-9)
Topics to be announced. Reenrollment permitted when topics are changed.
Staff; F, W, Sp, Su; D; 1975.

695 Thesis (3-6)
Staff; F, W, Sp, Su; D; 1975.

INTERNATIONAL AFFAIRS

The Center for International Studies of Ohio University offers an interdisciplinary master of arts degree in international affairs. The student may concentrate on the culture, the institutions and one of the languages of a major world region such as Africa, Southeast Asia or Latin America, or may develop a program of courses focusing on either international problems and institutions or cross-cultural thematic specializations such as "Development Studies," "Urban Studies" and "Administrative Studies." The MAIA degree is intended to give the individual freedom to develop a program best suited to his or her academic and professional requirements from a large number of courses and seminars offered each year.

Students are required to complete a minimum of 45 quarter hours in courses selected from at least three of the following disciplines: art (art history, comparative arts), business administration, communication, economics, education, English (literature), finance, geography, government, history, philosophy, sociology/anthropology. A minimum of 12 hours must be in seminar work.

Students are required to demonstrate an acceptable level of achievement in a language other than English pertaining to the area of concentration. This may be accomplished in the following ways: (1) For students in the African and Southeast Asian programs, complete satisfactorily a minimum of one academic year (generally nine credit

hours) in one of the following languages currently taught at Ohio University: Chinese (Mandarin), Hausa, Indonesian or Swahili. These credit hours cannot be counted as one of the discipline requirements, but may be used to complete the 45 hours required for the degree. (2) For students offering a European language, an intermediate level is required for the degree. European language credit hours cannot be counted toward one of the discipline requirements nor may they be used to complete the 45 hours needed for the degree. (3) Examination by the center or evidence of acceptable level of achievement in an examination administered by other recognized testing agencies.

A thesis may be written if it contributes to the student's academic and professional goals, but it is not required. The number of credits granted for the thesis will be determined by a committee of representatives of the center and of the academic area in which the thesis is written.

The criteria for admission are: a baccalaureate degree from an accredited college or university; a good undergraduate record usually including a minimum of 3.0 average in the undergraduate major and three letters of recommendation. The letters, usually from faculty with whom courses have been taken or from supervisors, should deal with the applicant's motivation, intellectual and academic capacity and potential and work experience.

The Center for International Studies is responsible for the following courses:

500 Introduction to Graduate Studies (2)
An interdisciplinary introduction to graduate study of Africa, Asia and Latin America, including research methodologies and the nature of area studies.
Staff; F; D; 1973.

601 Seminar in Development (4)
An interdisciplinary investigation into selected problems of development. Intended to provide an interdisciplinary perspective into the nature of sociological, political, economic and psychological change in Africa, Asia and Latin America.
Staff; W; D; 1975.

695 Thesis (1-9)
Prereq: perm.
Staff; F, W, Sp, Su; D.

Below is a list of principal courses relevant to international studies in Africa, Southeast Asia or Latin America. Please check the complete course description under the various departments.

Anthropology

548	Enculturation
550	Economic Anthropology
551	Political Anthropology
557	Anthropology of Religion
558	Women: A Cross-Cultural Survey
566	Cultures of the Americas
571	Ethnology
572	Cultures of the World
575	Culture and Personality
576	Culture, Contact & Change
577	Peasant Communities
578	Cultural Ecology
581	Cultures of Sub-Saharan Africa
585	Cultures of Southeast Asia
586	Problems in Southeast Asian Anthropology
590	Independent Research in Anthropology
594	Seminar in Anthropology
599	Readings in Anthropology

Art History

530	The Arts of the Orient
531	Pre-Columbian Art
532	African Art
533	Near Eastern Art
780	Individual Problems
781	Individual Readings

Economics

518	Agricultural Development
520	Economic Development

521	African Economic Development	612	Seminar in International Relations and Organization
522	Chinese Economy	648	Political Systems of Southeast Asia
523	Economy of Latin America		
524	Economy of Southeast Asia	History	
525	Comparative Economic Systems	522	Latin America in 19th Century
580	International Economics	523A	Latin America: Colonial
691	Seminar in Economics	523B	Latin American Survey, National Period
693	Readings in Economics	525	Inter-American Relations
Education	International Comparative	526A	Recent Latin America: Argentina, Brazil and Mexico in 20th Century
505	Comparative Cultures and Education	526B	Recent Latin America: Andean Nations in the 20th Century
506A	Education and Development in Africa	526C	Recent Latin America: Central America and the Island Republics in 20th Century
506B	Education and Development in Asia	535A	Islamic Civilization to 1800
506C	Education and Development in Latin America	535B	Middle East History Since 1800
507	Program in International Education	536A	North Africa in Modern Times
508	Perspectives in International Education	536B	North Africa Since 1914
510	Teaching Strategies for Cultural and International Understanding	538A	History of East Africa
605	Individual Studies in Comparative Education	538B	History of West Africa
606	Seminar in Comparative Education	541A	Africa to the 17th Century
706	Advanced Seminar in Comparative Education	541B	Africa from the 17th to the Late 19th Century
709	Internship in Comparative Education: United States or Abroad	541C	Africa from the Late 19th Century to the Present Day
English Language and Literature		542A	History of South Africa to 1899
506A,B,C	Studies in Oriental Literature	542B	South Africa in Recent Times
561-2-3	Colloquia in African Literature	544A	History of Malaysia
Finance		544B	Burma and Thailand in Modern Times
555	International Finance	544C	History of Vietnam
651	Seminar in International Finance	544D	Chinese in Southeast Asia
Foreign Languages and Literatures		545A	Southeast Asia to 1820
Spanish		545B	Southeast Asia: 1820-1945
543	Spanish-American Literature	547C	Post War Southeast Asia: Independence Problems
544	Spanish-American Literature	546A	Traditional China to 1800
547	Themes from Spanish-American Prose	546B	Modern China
548	Contemporary Latin American Literature	548A	Traditional Japan
African and Asian Languages		548B	Modern Japan
571-2-3	Elementary Hausa	598	Directed Study and Research
571-5-6	Intermediate Hausa	623	Colloquium in Latin American History: 1750-1880
577-8-9	Advanced Hausa	627	Colloquium in Recent Latin American History
571-2-3	Elementary Chinese	635	Colloquium in Middle East History
571-5-6	Intermediate Chinese	640	Seminar in African History
577-8-9	Advanced Chinese	641	Colloquium in African History
571-2-3	Elementary Indonesian	644	Seminar: Southeast Asia
571-5-6	Intermediate Indonesian	645	Colloquium in the History of Southeast Asia
577-8-9	Advanced Indonesian	646	Seminar: East Asia History
571-2-3	Elementary Swahili	649	Colloquium in History of East Asia in Modern Times
574-5-6	Intermediate Swahili		
577-8-9	Advanced Swahili		
Geography		Interpersonal Communication	
545	Southeast Asia I	548	Cross-Cultural Communication
550	Geography of Northern Africa		
551	Geography of Sub-Saharan Africa I	Journalism	
552	Geography of Sub-Saharan Africa II	596	International Communications
555	Geography of South America	597	Foreign Correspondence
556	Geography of Middle America	696	Seminar in International Communications
683A	Contemporary Problems of the Underdeveloped World	Management	
684B	Seminar in Regional Geography: Southeast Asia	584	International Comparative Management
681C	Seminar in Regional Geography: Africa	Marketing	
684D	Seminar in Regional Geography: Latin America	541	International Marketing
690	Geographic Studies	Philosophy	
Government		552	Myth and Symbolism
544A,B	Government and Politics of Latin America	Sociology	
541	Government and Politics of Africa	505	Readings in Sociology
544	Race and Politics in Southern Africa	507	Social Process and Change in Southeast Asia
545	Government and Politics of Japan	508	Latin American Society
546	Government and Politics of China		
547A,B	Government and Politics of Southeast Asia		
545	International Law		
601	New States in World Politics		
679	Latin American Political Thought		
690	Studies in Government		
590F	Politics of Brazil		
590J	Studies in African Government		
590K	Studies in Political Elites		
590M	Studies in Nationalism		
590P	U.S. Policy in Asia		
590Q	Studies in Southeast Asian Politics		
590U	U.S. and Africa		
591	Research in Government		
598	Problems in Government		
611	Seminar in Comparative Government		

ments, the student is expected to have the appropriately broadened perspectives and attitudes of a generalist, with the commensurate knowledge and skills of a specialist.

Both the MA and PhD degrees are offered, the appropriate degree may be pursued by the student through study and research typically in one or more of the following primary areas: (1) communication theory and process, (2) organizational communication, (3) rhetoric and public address, (4) speech education. Additional primary areas representing emerging emphases (e.g., information systems, intercultural communication, etc.) are also possible, depending upon the recommendation of the student's advisory committee.

To provide a common background perspective, InCo 501, Introduction to Graduate Study, or its equivalent, is required of all graduate students.

MASTER'S PROGRAM

To be admitted *unconditionally*, a student must have completed the bachelor's degree at a duly accredited institution, and have demonstrated the capacity to pursue study on the master's level. Evidence of such capacity will be assumed from his or her prior personal, professional and academic experiences as revealed in such indicators as recommendations and undergraduate grade-point average.

Two procedural tracks are available to the master's student: nonthesis and thesis. The latter emphasizes independent research, while the former stresses exposure to a greater number of formal course offerings. The nonthesis option typically shall be considered a terminal degree in this school. The student must declare his or her option prior to the completion of 15 hours of graded course credit at Ohio University.

At least 45 quarter hours of credit are required for the master's degree, whether thesis or nonthesis. A maximum of 12 quarter hours of graduate credit with grades of *A* or *B* may be accepted by transfer from approved institutions which offer the master's degree, provided the transferred coursework is acceptable to the student's advisory committee and is *not more than five years old*. At least 33 quarter hours of graduate credit must be earned on the Athens campus.

DOCTORAL PROGRAM

To be admitted *unconditionally*, a student must have received the master's degree or completed equivalent work (as approved by the Graduate Committee) at a duly accredited institution. If the applicant's master's degree did not include a thesis, he or she must present for evaluation by the Graduate Committee other evidence of his or her scholarly writing ability. Additional evidence of the student's ability to pursue study at the doctoral level is required, as documented from previous personal, professional and academic experiences.

At least 72 quarter hours of credit beyond the master's degree (or its equivalent) are required for the doctor of philosophy degree, plus a satisfactory dissertation. A maximum of 16 quarter hours of post-master's degree graduate credit with *A* or *B* grades may be accepted by transfer from approved institutions which offer post-master's doctoral level work for application to the student's primary area, and eight hours of such work for application to each related area, provided the transfer work is not more than five years old, and is acceptable to the student's advisory committee, the Graduate Committee and the dean of the Graduate College. At least 48 quarter hours of doctoral credit must be earned

INTERPERSONAL COMMUNICATION

Graduate study in the School of Interpersonal Communication is based on the principle that the program of study of each student be tailored to his or her individual needs and capabilities, based upon his or her background and professional goals. After completing his or her particular degree require-

on the campus of Ohio University. At least three consecutive quarters must be spent in an institutional full-time status on the Athens campus.

501 Introduction to Graduate Study (5)
Definition of "field" of communication, methods of structuring field and research concerns within areas of field. Examination of theory and function of "research." Analysis of representative types and methods of research, including reporting results.

505 Principles of Conference Leadership (4)
Prereq: perm. Group process applied to problem solving. Designed to provide participant with comprehensive overview of principles, methods and theories of leadership and conference/seminar/workshop planning, coordination and conduction.

525 Direction of Forensic Programs (3)
Organization of forensic programs, management of contests and tournaments, principles of coaching and judging. Practical application in University forensic program.

532 Creativity in Communication (4)
Creativity and creative process with direct application to interpersonal communication.

533 Applications of General Semantics (4)
Chief formulations from general semantics and their applications to field of communication.

535 Theories of Argument (3)
Relations between formal logic and rhetorical systems of arguments; intensive study of fallacies and of experimental findings related to study of argument.

542 Communication and Persuasion (4)
Process of communication and attitude change, survey of general theories and typical research, analysis of contemporary persuasion, projects in experimental persuasion.

545 Communication in Organizations (4)
Prereq: perm. Traditional and modern concepts of channels of communication in complex organizations (government, industry, education, etc.). Influence of organizational theory on communicative patterns and tasks.

546 Communication and the Campaign (4)
Processes of communication as applied in a campaign, defined as any organizational goal-oriented effort designed to influence behaviors of identifiable population. Emphasizes theory application in non-classroom campaign situations (political, fundraising, publicity, etc.).

548 Cross-Cultural Communication (4)
Analysis of processes and problems of communication as affected by national cultures; effects of differences in languages, values, meaning, perception and thought.

552 Psychology of Speech (4)
Psychological principles of communication such as concept-reference: vocal, visual and verbal cues, and attention.

558 Responsibilities and Freedom of Speech in Communication (4)
Review of ethical background, social and political foundations and famous cases of freedom of speech.

560 Contemporary Public Address (4)
Analysis of selected speakers and settings since 1933 with emphasis on last decade; close examination of agitation, confrontation and control as rhetorical strategies; rhetoric of pulpit; black rhetoric, and rhetoric of women's liberation.

601 Measurement Methodology in Communication (3-5)
Prereq: perm. Measurement principles, instruments and techniques in communication; problems and procedures in testing, measuring and evaluating communicative attitudes and skills; development and availability of relevant standardized tests.

627 Speech-Communication and Higher Education I (4)
Examination of concerns in speech-communication pedagogy. Development of methodology based on doing philosophy and world building.
Wagner; W; Y.

628 Speech-Communication and Higher Education II (4)
Examination of concerns (curriculum, organization, administration, etc.) as they become manifest

through speech-communication endeavors in broad spectrum of higher education.
Wagner; Sp; Y.

629 Seminar in Speech Education (4)
Isolation and analysis of problems of teaching speech; individual research projects and reports.

644 Critical Perspectives in Communication (3-5)
Introduction to predicated assumptions and their consequences for understanding man-as-communicator through systematic inquiry.

693 Independent Study (1-15)
Prereq: perm. Readings on special problems under planned program approved by advisor. Projects must be approved prior to registration.

694 Research (1-12)
Prereq: perm. Individual research on special problems. Projects must be approved prior to registration.

695 Thesis (1-15)

701 Research Designs in Communication (3-5)
Prereq: 601 or perm. Nature and selection of communicative research problems; development of strategies, techniques and appropriate designs; critical evaluation and development of experimental and descriptive procedures.

740 Theories and Models of Communicative Process (3-5)

Survey and analysis of current theories and models of communicative process, including their respective points of integration and divergence. Emphasis on relation between structure of communicative process and its identifiable ingredients as revealed in models.

741 Language and Symbol Systems (3-5)
Communicative process and concept of symbolic structure; systems of signs and symbols; verbal and nonverbal language codes. Emphasis on man's symbolizing ability and relationships between symbolic and physical reality.

742 Theories and Processes of Persuasion (3-5)
Prereq: perm. Survey and analysis of representative theories and models of persuasive processes, and their relationships to communicative processes. Variables affecting implementation of persuasive principles and techniques.

743 Signs and Values (4)
Considerations of the relation between signification and significance in human communication.

744 Listening Behavior: Theory and Research (4)
Analysis and evaluation of listening process in terms of its theory, research and operational characteristics.

745 Communication Process in Small Groups (4)
Theory and research in group social system, group modification of individual judgment, leadership styles, group vs. individual goals and intragroup lines of communication in small problem-solving and learning groups.

746 Communicative Process in Organizations (3-5)
Prereq: perm. Interaction between organizational structure and communication within organizations. Emphasis on theoretical and methodological analysis.

748 Communication and Information Diffusion (3-5)
Analysis of major approaches to data and information diffusion systems on local, regional, national and international levels. Emphasis on acquisition, analysis and dissemination of data as information, including critical points of interface and interaction between system and its users.

749 Communication Process: Special Topics (3-5)
Prereq: perm. Critical and intensive examination of a single pertinent topic, e.g., cybernetics, esthetic communication, kinesics, proxemics, quantitative semantics, propaganda analysis, etc. May be repeated three times up to a maximum of 15 credit hrs.

750 Classical Rhetoric (4)
Principles of rhetoric based upon writings of Aristotle, Plato, Cicero and Quintilian. Individual research studies of classical theorists and practitioners.

754 Medieval and Renaissance Rhetoric (4)
Prereq: 750. Rhetorical theories during late Roman Empire, medieval Arab culture and European medieval and Renaissance cultures with emphasis on English Renaissance rhetoricians.

756 Modern Rhetoric (4)
Aims, tasks and significance of rhetoric in relation to human communication processes. Distinctions among speculative, critical, canonical and performative perspectives in rhetorical inquiry.

762 Early American Public Address to 1820 (4)
Speaking in Colonial, Revolutionary and Jeffersonian eras.

764 Sectional Conflict and Public Address—1820-1880 (4)
Speaking during antebellum, Civil War and Reconstruction eras.

766 American Public Address in Recent Times—1880-1933 (4)
Impact of populism, imperialism, progressivism, world war, normalcy and depression on public address.

772 British Public Address: Wars of Roses to Age of Pitt (4)
Methods of communication and rhetorical theories on masters of the period, including Strafford, Chatham, Burke, Fox and Pitt. Movements of the period and interaction of interpersonal communication with philosophic ideas, social forces and historical events.

774 British Public Address: Napoleonic Wars to Age of Churchill (4)
Methods of communication and rhetorical theories of masters of the period, including Erskine, Bright, Disraeli and Gladstone. Analysis of movements of the period, including nationalism, imperialism, social reform and political reform. Interaction of interpersonal communication with philosophic ideas, social forces and historical events.

776 European Public Address (4)
Speaking and rhetorical theories of important German, Russian, French and Italian speakers. Analysis of rhetoric of revolution, nationalism, imperialism, communism, fascism and republicanism.

779 Seminar in Rhetoric and Public Address (4)
Special topics in rhetorical theory, history of public address, rhetorical criticism and speech analysis.

780 Rhetorical Criticism (4)
Theories and methodologies of selected modern critics. Exploration of interdisciplinary dimensions in criticism of rhetorical interactions. Class and individual projects.

790 Interdisciplinary Seminar (3-12)

794 Research (3-12)
Prereq: perm. Individual research on special problems. Projects must be approved prior to registration.

895 Dissertation (1-24)

ITALIAN

(See Foreign Languages and Literatures)

JOURNALISM

Master's degree students may choose between two plans. Plan A, for students who plan to go into college teaching or other fields involving the direction, conduct and use of research, requires 45 hours including a thesis. Plan B, for students who intend to go into professional journalism and who lack extensive experience in the field, requires 45 hours including a graduate internship. Both plans require that the student take Jour 511, 512, 803, 806 and 811. Any of these required courses will be waived if the student presents evidence that he or she has had an equivalent course previously. Master's students will be required to take undergraduate reporting, editing and graphics if they

have not previously taken such courses. A master's student must receive a grade of A or B in each of the required graduate-level courses. Also, no graduate credits with a grade of C or below will count toward the 15-hour minimum noted above.

To assist the School of Journalism in evaluating qualifications, each applicant for master's or doctoral level work is required to submit his or her scores on the aptitude tests of the Graduate Record Examination. Completion of the Miller Analogies Test also is recommended.

The School of Journalism, in cooperation with the School of Radio-Television, offers a PhD in mass communication. See details under the heading mass communication in this volume.

511 Newspaper and Communications Law (3)
Principles and case studies in communications law, constitutional guarantees, libel, privacy, contempt, privilege, copyright and government regulatory agencies.

Murray, Stempel, F. W., Sp; Y; 1976.

512 Mass Media and Society (3)
Social responsibility of journalistic or other mass communicator. Professional codes, responsibility of media for social change, reaction to political and economic pressures.

Lard, Murray, F. W., Sp, Su; Y; 1976.

521 Graphic Production Processes (5)
Prereq: perm. Advanced study of all processes for reproducing printed communication. Theory and lab.

Staff; W; Y; 1976.

522 Advertising Production (3)
Techniques and problems in methods of advertising production.

Turnbull; D; 1968.

530 Magazine Editing and Production (3)
Prereq: 221. Theory of magazine editing, production and publishing with lectures on various types of magazines available today and analysis of audiences they serve. Formulas for publishing, editorial content and article selection; illustration and layout, and technical procedures including sales and fulfillment. Each student will prepare a dummy magazine of his or her own design.

Baird, Chick; F. W., Sp; Y; 1976.

531 Magazine Editing and Production Practice (3)

Prereq: 430 or 530. Practice course where students apply their knowledge to production of a quarterly magazine done regularly by the School of Journalism. Each student assigned a specific position on magazine.

Scott; F. W., Sp; Y; 1976.

532 Specialized Magazines (3)
Prereq: 531 or perm. Career opportunities in magazine journalism revealed by in-depth studies of professional, business, industrial, and regional magazines. Course considers publishing problems through case studies.

Wilhelm; Sp; Y; 1976.

541 Magazine Feature Writing (4)
Writing and marketing factual magazine feature articles of various types. Finding subjects, securing photographs, writing articles and surveying markets.

Baird, Dohn, Scott, F. W., Sp, Su; Y; 1976.

542 Advanced Magazine Feature Writing (3)
Writing and marketing magazine articles. Emphasis on specialized markets and new trends in the industry. Students attempt actual assignment for magazines nationwide.

Baird, Scott; W, Sp; Y; 1976.

550 Advertising Copy Writing (3)
Effective persuasion in print and broadcasting.

Baker, Turnbull, F. W., Sp; Y; 1976.

552 TV Newfilm Production and Editing (3)
Prereq: perm. Principles and practices of TV newfilm production and editing.

McDaniel; F. Sp, Y; 1976.

555 Seminar in Broadcast News (3)
Discussion of problems operational, social, economic, legal and ethical faced by broadcasters reporting public affairs.

Dohn, Sp, Y; 1976.

561 Specialized Journalism (3)

Seminar approach to individual study of journalistic areas of special interest to individual students.

Chick; D; 1973.

564 Reporting of Public Affairs (3)

Problems of preparing in-depth, interpretative and analytical reports on public affairs for mass media, with practice in writing such reports. Focus mostly on contemporary controversial issues.

Lard, Lambert; F. W., Sp; Y; 1976.

565 The Editorial Page (3)

Editorial page in opinion information. Problems of content selection and presentation. Extensive writing of analytical and persuasive editorials and interpretative articles in depth.

Dohn, Lambert; F. W., Sp, Y; 1976.

566 International Communications (5)

Development and operations of world mass communication channels and agencies. Comparative analysis of media, media practices and flow of news throughout world. Relation of communication practices to international affairs and understanding.

Kheich; F; Y; 1975.

567 Foreign Correspondence (3)

Prereq: 231 or perm. Senior course in advanced international reporting for those who have lower-level reporting classes or experience. Students write reports of U.S. for newspapers abroad. Selected students are eligible for internships abroad. Sr or grad status.

Wilhelm; W; Y; 1976.

571 Public Relations Principles (5)

Public relations planning and techniques, selected communication studies and theories. Polling, defining objectives and analysis of public relations messages.

Culbertson; F. W; Y; 1976.

572 Advanced Public Relations (4)

Planning public relations programs and projects, including selection of audiences, messages and media and evaluation of effects. Project in area of student's interest.

Baker, Murray; W, Sp; Y; 1976.

581 Newspaper Management (3)

Problems in publishing affecting all departments.

Turnbull; D; 1971.

582 Radio-Television Advertising and Management (4)

Baker; F, Sp; Y; 1975.

584 Supervising School and College Publications (4)

Conference course for advisors of high school and college newspapers, magazines and yearbooks. Problems relating to staff selection, content of publications, copy, layout, photography, printing, advertising and business phases.

Chick; W; Y; 1976.

585 Journalism in the Secondary School Curriculum (4)

Prereq: 9 hrs of journalism. Intensive study and analysis of appropriate content for high school journalism courses. Planning course outlines and curricula.

Chick; D;

601 News Media Development and Procedures (1-15)

Prereq: perm. Current procedures of mass media, including latest developments in news gathering, writing, editing and graphic presentation. Intended for students without undergraduate journalism major.

Staff, F. W., Sp; Y; 1976.

662 Graduate Internship (6)

Prereq: prior perm. Conference course for students who have completed internship with approved organization. Student will submit comprehensive report analyzing the internship experience.

Dohn, F. W., Sp, Su, Y; 1976.

691 Research in Journalism and Communications (1-15)

Prereq: perm.

Staff, F. W., Sp, Su, Y; 1976.

695 Thesis (1-6)

Staff; F. W., Sp, Su; Y; 1976.

790 Independent Study (1-4)

Prereq: written proposal and perm prior to registration. Student can pursue personal scholarly interests under faculty supervision and guidance.

Staff, F. W., Sp, Su, Y; 1976.

792 Seminar (3-5)

Prereq: grad rank. Selected topics of current significance. May be repeated with different topics.

Staff, F. W., Sp, Y; 1976.

803 Seminar in Mass Communications Theory (5)

Communication process, interpersonal and mediated and possible barriers to effectiveness. Review of literature on effects of mass communication on individuals and groups, contrasting channels and message structures. Media as social and economic institutions.

Culbertson; F, Y; 1975.

806 Research Methods (5)

Techniques for study of communications content, message sources, audiences and effects.

Stempel; W; Y; 1976.

811 Seminar in History of Journalism (5)

Significant individuals, agencies and developments in history of American journalism. Research in historical bibliography in field of journalism. Individual projects and readings; application of historiographic methods.

Kheich; Sp, Y; 1976.

812 Government and Mass Communications (4)

Communications and political order. Theory and structure of democratic and totalitarian communications systems, relationships between government and mass communications in modern world.

Dohn; Sp; Y; 1975.

814 Literature of Journalism (4)

Directed reading and discussion in the literature.

Stempel; Su; Y; 1974.

815 Seminar in Theory of Freedom of the Press (4)

Prereq: 511. Historical and philosophical development of concept of free expression and its relationship to development of Anglo-American system of information flow. Contrasting ideologies and their evolution. Implications of these theories in contemporary states.

Lard; W; Y; 1976.

816 Seminar in Mass Media Research (5)

Prereq: 806. Students present research ideas to seminar, discuss progress and problems, report findings and defend projects before group. Emphasis also on scaling and measurement, non-parametric statistics, research strategy and nature and function of theory in mass communication research.

Culbertson; Sp, Y; 1976.

850 Seminar in Advertising Copy (4)

Human information processing as it affects advertising copy.

Turnbull; F, Y; 1975.

866 Seminar in International Communication (5)

Prereq: 506, 803. Directed research and reading applied to problems of international communication and comparative foreign journalism. Each student studies press of selected nations or areas in which he has special interest.

Kheich; Sp; Y; 1975.

871 Public Relations Problems and Programs (4)

Prereq: 571, 572. Overall planning and operation of public relations programs in government, industry and in educational and nonprofit organizations. Analysis and seminar discussion of problems and policies in such institutions. Case method used in conjunction with individual field studies conducted by class members.

Culbertson; Sp; Y; 1975.

LATIN

(See Foreign Languages and Literatures)

LATIN AMERICAN STUDIES

(See International Affairs)

LINGUISTICS

Graduate programs in linguistics are offered by the faculties of the Department of Linguistics and of other departments in the University whose professional concerns are in linguistics or related fields such as audiology and speech science, education, English, modern languages, psychology and sociology/anthropology. Nonthesis master of arts programs are offered in general linguistics and in applied linguistics. The applied linguistics programs lead to specialization in English linguistics or in teaching English as a foreign language.

Specific and detailed information about the programs available and the requirements thereof may be obtained by writing to the Chairman, Graduate Studies Committee, Department of Linguistics, Ohio University, Athens, Ohio 45701.

550 Introduction to General Linguistics (5)
Technical introduction to linguistics, devices of language description and methods of linguistic analysis.
Staff; F, W, Sp; 1976.

555 Introduction to Graduate Study in Linguistics (2)
(fall). Introduction and orientation to field of linguistics and its research resources.
Staff; F, Y; 1976.

560 Phonology (5)
Introductory course in analysis of sound systems of natural languages.
Coady; F, Y; 1976.

565 Theories of Phonology (5)
Prereq: 560. (winter). Latest developments in phonological theory, concentrating on theory of generative phonology in contrast with classical phonemic theory.
Coady; W, Y; 1976.

570 Syntax (4)
Introduction to theories and applications of grammatical analysis.
Soemarmo; Sp, Y; 1976.

572 Theories of Grammar (5)
Prereq: 570. (winter). Study of competing contemporary models of grammatical description.
Soemarmo; F, Y; 1976.

580 TEFL Theory and Methodology (4)
Prereq: 550, 560. (winter). Second language teaching theory and methodology, with emphasis on teaching English as a foreign language.
Dakin; W, Y; 1976.

590 Language and Culture (5)
Prereq: 550 or concurrent. Developing personal insights into similarities and differences of language behavior in a variety of linguistic and cultural contexts.
Coady; W, Y; 1976.

591 Sociolinguistics (3)
Introduction to interrelationships between language and social groups.
Coady; F, Y; 1976.

595 Introduction to Area Linguistics (3, 5)
Prereq: perm. Investigation into a specific group or subgroup of languages within Malayo-Polynesian or African families. Paper required for 5 hrs credit.
Staff; D; 1974.

600 Studies in Linguistics (1-4)
Prereq: perm. Directed individual investigation of a particular area of interest in linguistics.
Staff; F, W, Sp, Su; 1976.

609 Linguistics Colloquium (1, 2)
Papers by faculty, students and special guests. (Election for 2 hrs credit requires presentation of a paper.)
Staff; D; 1974.

650 Historical Linguistics (4)
Prereq: 560, 570. Genealogical and typological classification, methods of historical analysis and change of language systems.
Staff; W, Y; 1976.

652 Computational Linguistics (3)
Prereq: 550. Application of computers to linguistic research.
Staff; D.

661 Phonological Structures in English (4)
Prereq: 560. (winter). Analysis of sound system of English.
Coady; Sp, Y; 1976.

671 Syntactic Structures in English (4)
Prereq: 570 or perm. (spring). Analysis of English grammatical patterns.
Staff; Sp, Y; 1976.

675 Linguistics Semantics (4)
Prereq: 570. (spring). Semantic aspects of standard theory in generative grammar.
Soemarmo; W, Y; 1976.

680 Materials in TEFL (4)
Prereq: 570, 580. (spring). Theory and practice of analysis, evaluation and creation of instructional materials for teaching English as a foreign language.
Dakin; Sp, Y; 1976.

682 Proseminar in TEFL (5)
Prereq: 680. (summer). Research in special problems in teaching skills of spoken English.
Dakin; Su, Y; 1976.

683 Proseminar in TEFL (5)
Prereq: 680. (summer). Research in special problems in teaching skills of written English.
Dakin; D; 1974.

685 Proseminar in Applied Linguistics (5)
Prereq: perm. (spring). Group and individual research in applied linguistics.
Staff; Sp, Y; 1976.

686 Theories of Language Learning (3)
Prereq: 550. (fall). Theories of 1st and 2nd language acquisition and their applications to development and evaluation of language teaching methodology.
Staff; F, Y; 1976.

690 Languages in Contact (4)
Prereq: 560, 570. Psychological, pedagogical and social consequences of 2nd-language teaching-learning, with emphasis on theory and implications of linguistic transfer and interference.
Staff; D; 1973.

696 Field Methods (5)
Prereq: 560, 570, or concurrent. (winter). Methods of eliciting, transcribing, organizing and analyzing linguistic data.
Staff; W, Y; 1976.

699 Proseminar in Linguistics (5)
Prereq: perm. (spring). Group and individual research in general linguistics.
Staff; Sp, Su; 1976.

750 Seminar in Comparative Linguistics (5)
Prereq: perm. Research in Indo-European language group with concentration on particular language families.
Staff; D; 1974.

760 Seminar in Phonology (5)
Prereq: perm. Research on selected topics in phonological theory.
Coady; Sp, Y; 1976.

770 Seminar in Syntax (5)
Prereq: perm. Research on selected topics in syntactic theory.
Soemarmo; Sp, Y; 1976.

775 Seminar in Linguistic Semantics (5)
Prereq: 675. Survey of contemporary semantic theories.
Soemarmo; Sp; 1976.

790 Dialectology (4)
Prereq: perm. Survey of historical and theoretical bases of dialect study.
Staff; D.

792 History of Linguistics (4)
Prereq: perm. Survey of development of linguistic thought.
Staff; D.

795 Seminar in Area Linguistics (5)
Prereq: perm. Research on particular aspects of languages of a given area.
Staff; D.

800 Readings in Linguistics (2-5)
Prereq: perm. Directed readings for advanced students.
Staff; F, W, Sp; 1976.

MALAY

(See Foreign Languages and Literatures)

MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

500 Management (4)
Management and organization concepts and theory.
Staff; D; 1972-73.

510 Management of Communications (4)
Communication channels and media used by a firm in relationships with employees, customers, the public and others.
Staff; F, D; 1970-71.

515 Communications Systems (4)
Application of communication subject matter to specific organizational situations. Emphasis on problem-solving, goal-oriented function of communication. Written cases.
Staff; W, D; 1970-71.

520 Administration of Personnel (4)
Prereq: perm. Compendium of practices in personnel management. Consideration of such areas as employee selection, training, performance evaluation and wages and salary administration.
Staff; F, W, Sp, Su, Y; 1975-76.

521 Personnel Management Problems (4)
Prereq: 520 or perm. Personnel problems and their relation to various ethnological concepts. A case approach.
Staff; Sp, D; 1973-74.

525 Labor Relations (4)
Prereq: perm. Nature of collective bargaining; labor-management conflict or consensus; grievance procedures; arbitration; contract administration.
Staff; F, W, Sp, Su, Y; 1975-76.

526 Manpower Management (4)
Prereq: 520 and 525. Advanced course in manpower management, integrating personnel and labor relations functions at planning and policy-making level.
Staff; Sp, Y; 1975-76.

530 Information Management (4)
Information networks and flows in organizations within a total-systems framework.
Staff; Sp, D; 1970-71.

535 Management of Human and Technological Information Systems (4)
Prereq: perm. Focuses upon humans and machines as components of formalized information systems. Subject matter approached from a systems and procedures viewpoint, with particular emphasis on management and control techniques.
Staff; F, W, Sp, Su, Y; 1975-76.

540 Organizational Behavior—Leadership and Motivation (4)
Prereq: perm. Conceptual framework of behavioral sciences to management and organizations. Motivation and leader behavior within organizational settings.
Staff; F, W, Sp, Su, Y; 1975-76.

540W Organizational Behavior—Leadership and Motivation (3)
Conceptual framework of behavioral sciences to management and organizations. Motivation and leader behavior within organizational settings. Accelerated workshop course for MBA students.
Staff; Su, D; 1975-76.

545 Organizational Behavior—Work Groups and Formal Organizations (4)
Prereq: 540 or perm. Organizational theory and behavior emphasizing formal organizational theory and work group behavior. Emphasis on interaction between organization, its environment and its members and influence of informal work groups on member behavior.
Staff; F, W, Sp, Su, Y; 1975-76.

584 International Comparative Management (4)
Survey and analysis of similarities and differences in management systems, processes and styles, as well as evaluation of changes and their impact in selected groups of countries.
Staff; Sp; Y; 1973-74

591 Seminar (3, 4 or 5)
Prereq: perm. Selected topics of current interest in management and organizational behavior area.
Staff; F, W, Sp, Su; Y; 1975-76

592 Management Thought (4)
Review of development of managerial theories from 5000 B.C. to present with consideration of their application to present organizational settings.
Staff; W; Y; 1973-74

594 Management Research (4)
Prereq: perm. Practical application of research methods in behavioral sciences to management problems, emphasizing research available and its use in decision making and in solving managerial problems.
Staff; Sp; Y; 1974-75

596 Organizational Behavior—Managing Change (4)
Prereq: 540, 545 or perm. Planning and implementing changes in organizational settings.
Staff; W; Y; 1975-76

620 Business Research (4)
Communication theory research methodology, analysis of data and preparation of written reports.
Staff; Sp; D; 1973-74

640 Organizational Behavior (4)
Application of psychology, sociology, anthropology, political science and other behavioral disciplines to working with and through individuals and groups.
Staff; F; Y; 1975-76

650 Management Information Systems (4)
Concentrated introduction to tools, techniques and concepts underlying management of information that are critical in understanding and dealing with problems arising in development and use of management information systems.
Staff; Sp; Y; 1975-76

690 Research (3, 4 or 5)
Methodology, analysis of data and preparation of research findings.
Staff; F, W, Sp, Su; Y; 1975-76

691 Seminar (3, 4 or 5)
Selected topics of current interest.
Staff; F, W, Sp, Su; Y; 1975-76

692 Management Thought (4)
Review of development of managerial theories from 5000 B.C. to present with consideration of their application to present organizational settings.
Staff; W; Y; 1973-74

693 Readings (1-15)
Readings on topics selected by student in consultation with faculty member.
Staff; F, W, Sp, Su; Y; 1975-76

694 Management Research (4)
Prereq: perm. Practical application of research methods in behavioral sciences to management problems, emphasizing research available and its use in decision making and in solving managerial problems.
Staff; Sp; Y; 1974-75

695 Thesis (1-15)
Staff; F, W, Sp, Su; Y; 1975-76

696 Organizational Behavior—Managing Change (4)
Prereq: 540, 545 or perm. Planning and implementing change in organizational settings.
Staff; W; Y; 1975-76

697 Independent Research (1-15)
Research under direction of faculty member.
Staff; F, W, Sp, Su; Y; 1975-76

698 Internship (1-15)
Staff; F, W, Sp, Su; Y; 1975-76

MARKETING

501 Marketing Principles (4)
Principles of marketing management with emphasis on practices and problems of marketing manager and environment in which he or she operates, supplemented with business cases.
Staff; F, W, Sp, Su; Y; 1973-75

501W Marketing Principles (3)
Emphasis on practices and problems of marketing manager and environment in which he or she operates, supplemented with business cases. Accelerated workshop course for MBA students.
Staff; Su; D; 1975

503 Marketing Problems and Cases (4)
Problems facing manufacturers and middlemen in marketing programs. Students will develop integrated marketing programs based on cases taken from actual business situations. Emphasis on development of analytical skills.
Staff; F, W, Sp; Y; 1974-75

504 Management of Distribution (4)
Problems encountered by manufacturer in establishing and maintaining effective distribution system, concentrating on channel design and strategies.
Staff; W; Y; 1974-75

525 Industrial Marketing (4)
Investigation and analysis of problems involved in marketing of industrial products.
Staff; D; 1973-74

541 International Marketing (4)
Marketing problems, opportunities and organization of multinational firms to serve overseas markets. Government aids and impediments and a comparison of markets and marketing techniques in U.S. and foreign countries.
Staff; Sp; Y; 1974-75

544 Consumer Behavior (4)
Individual, social and cultural influences that affect consumer behavior. Consideration of explanatory and predictive models.
Richmond; F, W, Sp; Y; 1974-75

546 Sales Forecasting (4)
Forecasting techniques and methodologies applied to estimation of future environments in which business and marketing managers will have to operate.
Staff; Sp; D; 1972-73

550 Management of Promotion (4)
Problem-solving course leading to development and management of firm's promotional mix with emphasis on use of mass media and on stimulation of reseller's cooperation.
Staff; W; Y; 1974-75

558 Sales Management (4)
Principles and practices in planning, organizing and controlling sales force. Selection, training, compensating, supervising and stimulating salesmen. Analysis of sales potentials and costs.
Staff; W; A; 1974-75

561 Social Issues of Marketing (4)
Designed to increase awareness of future marketing managers of contemporary social issues and legal requirements of marketplace. Areas include social critics, past and present, and their criticisms, including excessive promotion, unsafe and unnecessary products, high prices and possible societal and governmental response to these criticisms.
Staff; A; 1973-74

562 Product Development (4)
Examination of new product development activities to identify significant factors to be studied and decisions required in researching, manufacturing and marketing new products.
Staff; D

578 Marketing Theory (4)
Investigation of theoretical framework of marketing operations and marketing environment.
Staff; D

579 Marketing Research (4)
Techniques involved in collection, tabulation and analysis of marketing information.
Staff; F; Y; 1974-75

580 Mathematical Models of Marketing Analysis (4)
Quantitative techniques that can be used in analysis of marketing problems and application of these methods to problem situations.
Staff; W; Y; 1973-74

635 Marketing Management (4)
Prereq: 501 or perm. Analysis of markets and marketing activities as practiced in corporations in a dynamic society.
Staff; W; Y; 1974-75

645 Seminar in Consumer Behavior (4)
Behavioral science research as it applies to marketing process.
Staff; Sp; Y; 1973-74

651 Seminar in Monetary Theory (4)
Theories explaining relationship between money and its value, relations between money and level of economic activity, allocation of funds among alternate uses, interest level and behavior of interest rates. (Same as Econ 651)
Staff; D

655 Managerial Marketing (4)
Extensive case analysis of problems encountered by manufacturer and middleman in marketing consumer goods and industrial products.
Staff; W; Y; 1974-75

663 Marketing Strategy (4)
Analysis of preparation and organization of overall marketing plans, and elements of marketing mix. Also developed are merchandising analyses, objectives and strategies which take into consideration the ever-changing consumer, trade and legal environment as well as firm's costs.
Staff

666 Seminar in Marketing Theory (4)
Investigation of theoretical framework of marketing activities and operations.
Staff; W; A; 1972-73

690 Research (3, 4 or 5)
Methodology, analysis of data and preparation of research findings.
Staff

691 Seminar (3, 4 or 5)
Selected topics of current interest in marketing area.
Staff; D; 1973-74

693 Readings (1-15)
Readings on topics selected by student in consultation with faculty member.
Staff; F, W, Sp, Su; Y; 1974-75

695 Thesis (1-15)
Staff; F, W, Sp; 1974-75

697 Independent Research (1-15)
Research under direction of faculty member.
Staff; F, W, Sp, Su; Y; 1974-75

698 Internship (1-15)
Staff; F, Y; 1974-75

MASS COMMUNICATION

The School of Journalism and the School of Radio-Television jointly offer a doctoral program in mass communication. Students may work toward a PhD in mass communication with emphasis on radio-television, journalism or mass communication research.

The minimum requirements for the doctorate are: a total of 135 quarter hours of graduate work, including previous work on the graduate level which has been accepted for transfer, and further including up to 30 quarter hours of credit for the dissertation, a major of at least 54 quarter hours, other than dissertation, in mass communication, at least 18 quarter hours in a related area outside the College of Communication, distribution of the remaining hours, up to a total of at least 15, among courses within or outside the college which the student, with the approval of his or her guidance committee, believes will contribute to his or her professional competence, and two scholarly disciplines or tools (statistics, history,

ography, etc.) or intensive proficiency in one scholarly discipline.

The PhD program in mass communication at Ohio University is highly student oriented. Rather than conforming to a common set of requirements, each student devises his or her own program of study (with the advice and approval of his or her guidance committee) according to needs determined by personal and career goals.

Because there are minor differences in procedures employed by the schools cooperating in the mass communication program (for example, while the School of Journalism requires that all applicants file GRE scores and recommends that MAT scores also be supplied, the School of Radio-Television requires only that applicants file either the GRE or MAT scores), those who wish to make application are advised to contact the graduate coordinator of the school through which entry is sought.

COURSES OFFERED THROUGH THE SCHOOL OF JOURNALISM

790 Independent Study (1-4, max 15)

Prereq: written proposal and perm prior to registration. Student can pursue personal scholarly interests under faculty supervision and guidance.
Staff; F, W, Sp, Su; Y; 1976.

792 Seminar (3-5)

Prereq: grad rank. Selected topics of current significance. May be repeated with different topics.
Staff; F, W, Sp, Su; Y; 1976.

803 Seminar in Mass Communications Theory (5)

Communication process, interpersonal and mediated and possible barriers to effectiveness. Review of literature on effects of mass communication on individuals and groups, contrasting channels and message structures. Media as social and economic institutions.
Culbertson; F; Y; 1975.

806 Research Methods (5)

Techniques for study of communications content, message sources, audiences and effects.
Stempel; W; Y; 1976.

811 Seminar in History of Journalism (5)

Significant individuals, agencies and developments in history of American journalism. Research in historical bibliography in field of journalism; individual projects and readings; application of historiographic methods.
Kliesch; Sp; Y; 1976.

812 Government and Mass Communications (4)

Communications and political order. Theory and structure of democratic and totalitarian communications systems, relationships between government and mass communications in modern world.
Dohn; Sp; Y; 1976.

814 Literature in Journalism (4)

Directed reading and discussion in the literature.
Stempel; Su; Y; 1974.

815 Seminar in Theory of Freedom of the Press (4)

Prereq: 511. Historical and philosophical development of concept of free expression and its relationship to development of Anglo-American system of information flow. Contrasting ideologies and their evolution. Implications of these theories in contemporary states.
Izard; W; Y; 1976.

816 Seminar in Mass Media Research (5)

Prereq: 806. Students present research ideas to seminar, discuss progress and problems, report findings and defend projects before group. Emphasis also on scaling and measurement, nonparametric statistics, research strategy and nature and function of theory in mass communication research.
Culbertson; Sp; Y; 1976.

850 Seminar in Advertising Copy (4)

Prereq: 550. Problems in developing and testing effective advertising and other copy programs.
Turnbull; F; Y; 1975.

866 Seminar in International Communications (5)

Prereq: 566, 803 or perm. Directed research and reading applied to problems of international communication and comparative foreign journalism. Each student studies press of selected nations or areas in which he or she has special interest.
Kliesch; Sp; Y; 1975.

871 Public Relations Problems and Programs (4)

Prereq: 571, 572. Overall planning and operation of public relations programs in government, industry and in educational and nonprofit organizations. Analysis and seminar discussion of problems and policies in such institutions. Case method used in conjunction with individual field studies conducted by class members.
Culbertson; Sp; Y; 1975.

895 Dissertation (1-15)

Staff; F, W, Sp, Su; Y; 1976.

COURSES OFFERED THROUGH THE SCHOOL OF RADIO-TELEVISION

703 Statistical Analysis in Mass Communication Research (4)

Prereq: 602 or perm. Statistical techniques as applied to problems in mass communication.
Staff; W; Y; 1976.

705 Research Internship (1-9)

Prereq: Acceptance by competition only. Opportunity for students to implement and complete major research study under supervision.
Anderson; F, W, Sp, Su; Y; 1976.

740 Radio and Television in Education (4)

Summary, analysis, application and evaluation of TV and radio research in teaching-learning process. 4 lec.
Staff; D; 1974.

741 Instructional Methods in Educational Radio-Television (4)

Practical applications of television in public school classroom. Utilization of television programs as adjunct to instruction. Preparation of instructional units for telecasting. 2 lec, 4 lab.
Clift; W; A; 1975.

750 Broadcast Economics (4)

Economic structure of broadcast and CATV industries, their relationships with other industries, fiscal policies and practices, sources and control of revenue, profit and expenses. Case studies in economic problems and practices.
Staff; W; Y; 1976.

751 Broadcast Management (4)

Consideration and examination of theory and practice in broadcast station management, organization, personnel management and motivation, examination of role of station manager in relationship in various broadcast station operations.
Savage; F, W; Y; 1976.

753 Broadcasting Law and Regulations (4)

Socio-political control of broadcasting; effect of laws, regulations and public pressures upon programming policies. 5 lec.
Staff; W; Y; 1976.

755 Broadcasting Programming (4)

Programming concepts, resources, costs, selection and scheduling. 5 lec.
Staff; W; Y; 1976.

757 Broadcast Sales and Sales Management (4)

Problems and practices of radio and television sales and sales management, policy formation, including projects devoted to commercial inventory and rate structure.
Savage; Sp; Y; 1976.

767 Comparative Systems of Broadcasting (4)

Broadcasting systems of selected countries studied in terms of relevant political, social, economic, and cultural factors.
McDaniel; Sp; Y; 1976.

769 International Broadcasting (4)

Development, effect and control of international broadcasting as instrument of foreign policy.
McDaniel; W; Y; 1976.

771 Social Impact of Mass Communication (4)
Group and individual investigation into research methodology and literature on effects of mass media upon society, with particular reference to broadcasting. 4 lec.

Anderson; F; Y; 1975.

779 History of Broadcasting (4)

Origin of US system of radio and television communication and its development to present day.
Berman; F, Sp; Y; 1976.

786 Colloquium in Broadcasting (1-5)

Study and analysis of current issues and problems in radio-television.
Staff; D; 1974.

804 Seminar in Mass Communication Research (4)

Prereq: 703. Intensive study of research methodologies in radio-television scholarship; individual projects.
Anderson; Sp; Y; 1975.

842 Seminar in Educational Radio-Television (4)

Intensive examination and evaluation of radio-television utilization in educational process.
Staff; D; 1972.

843 Seminar in Pedagogy (4)

Problems, methods and techniques of teaching of radio-television at college level.
Rightmire; Sp; Y; 1975.

865 Seminar in International Broadcasting (4)

Problems in socio-political control of broadcasting related to developing systems of other nations and international implications of technological development of broadcast communications.
McDaniel; D; 1975.

884 Seminar in Criticism (4)

Intensive examination of television as esthetic and cultural form. Analysis and practice of television criticism.
Miller; Sp; Y; 1976.

894 Independent Study (1-12)

Prereq: perm. Individual research on special problems. Projects must be approved prior to registration.
Staff; F, W, Sp, Su; Y; 1976.

895 Dissertation (1-24)

Staff; F, W, Sp, Su; Y; 1976.

MATHEMATICS

The Department of Mathematics offers the master of science and the doctor of philosophy degrees. Each student plans his or her own program with the aid of an advisor and has it approved by the departmental graduate committee.

The master's degree may be taken without a thesis; no examination is required. The minimum coursework required for this degree is 45 quarter hours. However, if the student does most or all of the work on the 500 level, the graduate committee may require him or her to take more than 45 but not over 60 quarter hours. The coursework should include sequences in at least two areas of mathematics, e.g., algebra, analysis, topology, etc.

The PhD degree requires satisfactory performance on a comprehensive examination and the writing of an acceptable dissertation. For this degree the student should, as early as possible, acquire the ability to read the (current) mathematical literature in one or more of the following languages: French, German or Russian.

All graduate level computer science courses, except for CS 551, 552, 553 and 554, may be used to satisfy requirements for a graduate degree in mathematics.

500 History of Mathematics (5)

Prereq: grad rank. (spring). Main lines of mathematical development in terms of contributions made by great mathematicians: Euclid, Archimedes, Descartes, Newton, Gauss, etc.
Staff; Sp; Y; 1976.

506 Foundations of Mathematics (5)

Prereq: grad rank (fall, winter). Introductory topics in set theory and axiomatic development of real number system.

Staff: F, W, Y, 1976.

507 Classical Number Theory (5)

Prereq: grad rank (spring). Divisibility properties of integers, arithmetic properties of congruence classes modulo m , number-theoretic functions, solution of linear and nonlinear systems of diophantine equations, law of quadratic reciprocity and selected classical results on representation of integers as sum of squares. Additional topics covered as time permits.

Staff: Sp, Y, 1976.

510 Matrix Theory (5)

Prereq: grad rank (fall, spring, summer). Primarily intended for science and engineering majors. Topics include matrix algebra and matrix calculus, matrix solutions of systems of linear equations, eigenvector and eigenvalue problems, quadratic forms and inner product spaces.

Staff: F, Sp, Su, Y, 1976.

511 Linear Algebra (5)

Prereq: grad rank (fall). Vector spaces and linear transformations; matrices and determinants; characteristic roots and similarity; dual spaces; classification of quadratic and Hermitian forms.

Staff: F, W, Y, 1976.

513A Introduction to Modern Algebra (5)

Prereq: 511 or equivalent mathematical maturity (winter). Groups, permutation groups, subgroups, normal subgroups, quotient groups. Conjugate classes and class equation formula and its applications to p -groups. Fundamental theorem on homomorphisms.

Staff: W, Y, 1976.

513B Introduction to Modern Algebra (5)

Prereq: 513A (spring). Fundamental theorem on finite abelian groups and its consequences. Cauchy theorem and first Sylow theorem. Polynomial rings. UFD and Euclidean domains. Maximal ideals. Algebraic extensions and splitting fields. Fundamental theorem of Galois theory.

Staff: Sp, Y, 1976.

529 Topics in Mathematics of Elementary and Secondary Schools (1-5)

Prereq: perm and grad rank. (offered on demand). Selected topics related to teaching of mathematics in grades K-12. (May be repeated for credit.)

Staff: W, F, Sp, Su, D, 1976.

539 Topics in Geometry (1-5)

Prereq: perm of graduate chairman and instructor. When demand sufficient, course in some phase of geometry will be offered under this number. (May be repeated for credit.)

Staff: F, W, Sp, Su, D, 1975.

540 Vector Analysis (5)

Prereq: grad rank (spring). Vector algebra and its applications. Vector calculus and space curves. Scalar and vector fields, gradient, divergence, curl and the Laplacian. Line and surface integrals, divergence theorem, Stokes's theorem and Green's theorem.

Staff: Sp, Y, 1976.

541 Fourier Analysis and Partial Differential Equations (5)

Prereq: grad rank (winter). Representation of functions as sums of infinite series of trigonometric functions, Bessel functions, Legendre polynomials or other sets of orthogonal functions. Use of such representations for solution of partial differential equations dealing with vibrations, heat flow and other physical problems.

Staff: W, Y, 1976.

542 Theory of Linear and Nonlinear Programming (5)

Prereq: 510 or equiv, computer programming experience desirable (spring). Minimization of functions subject to equality and inequality constraints, Kuhn-Tucker theorem, algorithms for function minimization, such as steepest descent and conjugate gradient, and penalty function method. (Not a course in computer programming.)

Staff: Sp, Y, 1976.

544 Introduction to Numerical Analysis (5)

Prereq: CS 555 and an undergraduate course in differential equations (winter, summer). Numerical methods in: Polynomial interpolation and approximations, integration and differentiation, find-

ing solutions to differential equations, matrix inversion, determination of eigenvalues and finding solutions of systems of equations.

Staff: W, Su, Y, 1976.

550A Theory of Statistics (5)

Prereq: grad rank (fall). Probability distributions of one and several variables, sampling theory, estimation of parameters, confidence intervals, analysis of variance, correlation and testing of statistical hypotheses.

Staff: F, Y, 1976.

550B Theory of Statistics (5)

Prereq: 550A (winter). Continuation of 550A. See 550A for description.

Staff: W, Y, 1976.

560A Advanced Calculus (5)

Prereq: grad rank and an undergraduate course in introductory analysis. (fall). Critical treatment of functions of a single variable. Emphasis placed on topics not treated in undergraduate introductory analysis course, such as compactness, nested intervals, deeper properties of continuous functions, Riemann-Stieltjes integration and uniform convergence.

Staff: F, Y, 1976.

560B Advanced Calculus (5)

Prereq: 560A and 511. (winter). Primarily devoted to study of differential calculus in n -space. Topics include a review of inner product spaces and linear transformations, elementary topology of plane, limits and continuity of functions of several variables, directional derivative, differential, chain rule and implicit function theorem.

Staff: W, Y, 1976.

560C Advanced Calculus (5)

Prereq: 560B. (spring). Primarily devoted to study of integral calculus in n -space, Riemann-Darboux integral, Jordan content, iterated integrals, transformation of integrals, differential forms and their integrals.

Staff: Sp, Y, 1976.

570 Applied Complex Variables (5)

Prereq: grad rank. (fall). Analytic and harmonic functions, Cauchy integral and residue theorems, contour integration, Taylor and Laurent expansions, conformality and linear transformations with applications.

Staff: F, Y, 1976.

580A Elementary Point Set Topology (5)

Prereq: grad rank. (winter). Topology of Euclidean spaces and general metric spaces.

Staff: W, Y, 1976.

580B Elementary Point Set Topology (5)

Prereq: 580A. (spring). Introduction to general topological spaces.

Staff: Sp, Y, 1976.

589 Selected Topics in Mathematics (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). (May be repeated for credit.)

Staff: F, W, Sp, Su, Y, 1976.

600A Set Theory (5)

Prereq: perm. (fall). Introduction to axiomatic set theory, ordinals and cardinals; equivalents of the axiom of choice.

Staff: F, Y, 1976.

600B Set Theory (5)

Prereq: 600A. (winter). Continuation of 600A. See 600A for description.

Staff: W, Y, 1976.

613A Abstract Algebra (5)

Prereq: 513B. (fall). Groups, rings and fields, Jordan-Hölder theorem, structure theorem for finitely generated abelian groups, integral domains, principal ideal rings, modules, linear algebras, field extensions and Galois theory.

Staff: F, Y, 1975.

613B Abstract Algebra (5)

Prereq: 613A. (winter). Continuation of 613A. See 613A for description.

Staff: W, Y, 1975.

613C Abstract Algebra (5)

Prereq: 613B. (spring). Continuation of 613A-B. See 613A for description.

Staff: Sp, Y, 1975.

641A Methods of Applied Mathematics (5)

Prereq: 560C and 511. Course contents vary. (May be repeated for credit.)

Staff: F, A, 1976.

641B Methods of Applied Mathematics (5)

Prereq: 641A. Course contents vary. (May be repeated for credit.)

Staff: W, A, 1976.

641C Methods of Applied Mathematics (5)

Prereq: 641B. Course contents vary. (May be repeated for credit.)

Staff: Sp, A, 1976.

642A Optimization Theory (5)

Prereq: 460 A,B,C, 410; and 340 or perm. Classical problems of calculus of variation, Euler-Lagrange, Dubois-Reymond, Legendre and Weierstrass necessary conditions, formulation of classical problems as nonlinear programming problems in function space.

Staff: F, A, 1975.

642B Optimization Theory (5)

Prereq: 642A, FORTRAN or perm. Numerical solutions of boundary value problems, formulation and solution of optimal control problems with set, equality and inequality constraints; applications to economics, classical mechanics, and engineering.

Staff: W, A, 1975.

642C Optimization Theory (5)

Prereq: 642B. Pontryagin's maximal principle is derived and applied to optimal control problems. Numerical solutions are considered more fully.

Staff: Sp, A, 1975.

647A Special Functions (5)

Prereq: 570 and 560A or 670A.

Staff: W, D, 1970.

647B Special Functions (5)

Prereq: 647A.

Staff: Sp, D, 1970.

660A Real Analysis (5)

Prereq: 560C. (fall). Abstract measure and integration; Lebesgue measure on real line; L^p -spaces; Fubini and Radon-Nikodym theorems; differentiation theory.

Staff: F, Y, 1976.

660B Real Analysis (5)

Prereq: 660A. (winter). Continuation of 660A. See 660A for description.

Staff: W, Y, 1976.

660C Real Analysis (5)

Prereq: 660B. (spring). Continuation of 660A-B. See 660A for description.

Staff: Sp, Y, 1976.

670A Complex Analysis (5)

Prereq: 560A and perm. (fall). Analytic functions, multivalued analytic functions, power series, complex integration, Cauchy integral theorem, its extensions and consequences, Residue theorem, Taylor and Laurent expansions, max-modulus principle and its generalizations, elementary conformal mapping, conformal representations, Riemann mapping theorems, analytic continuations, Riemann surfaces, Weierstrass and Mittag-Leffler's factorization theorems, simple periodic functions, simple properties of elliptic functions, Dirichlet problem.

Staff: F, Y, 1975.

670B Complex Analysis (5)

Prereq: 670A. (winter). Continuation of 670A. See 670A for description.

Staff: W, Y, 1975.

670C Complex Analysis (5)

Prereq: 670B. (spring). Continuation of 670A-B. See 670A for description.

Staff: Sp, Y, 1975.

680A Point Set Topology (5)

Prereq: 580C. (fall). General topological spaces, product and quotient spaces, convergence, separation, countability properties, compactness and paracompactness, connectivity, metric spaces, completion, metrization, completely regular spaces, uniform spaces.

Staff: F, Y, 1976.

680B Point Set Topology (5)

Prereq: 680A. (winter). Continuation of 680A. See 680A for description.

Staff: W, Y, 1976.

680C Point Set Topology (5)

Prereq: 680B. (spring). Continuation of 680A-B. See 680A for description.

Staff: Sp, Y, 1976.

690 Independent Study (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Independent study of topics under guidance of faculty member. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

695 (MS) Thesis (arranged)

Prereq: perm of graduate chairman. (fall, winter, spring, summer.) (May be repeated for credit.)

Staff; F, W, Sp, Su; D; 1968.

699 Topics in Mathematics (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer.) (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

710A Group Theory (5)

Prereq: 613C. (offered even-numbered years). Abelian groups, permutation groups, Sylow theorems, solvable groups, group extensions, free groups and free products, group representation and characters.

Staff; W; A; 1974.

710B Group Theory (5)

Prereq: 710A. (offered even-numbered years). Continuation of 710A. See 710A for description.

Staff; Sp; A; 1974.

711A Theory of Rings and Modules (5)

Prereq: 613C. (offered odd-numbered years). Rings with minimum condition, Wedderburn theorems, Jacobson radical, Jacobson density theorem, commutativity conditions, algebras, Goldie theorems, modules and chain conditions.

Staff; F, W, Sp, Su; D; 1973.

711B Theory of Rings and Modules (5)

Prereq: 711A. (offered odd-numbered years). Continuation of 711A. See 711A for description.

Staff; Sp; D; 1973.

761A Functional Analysis (5)

Prereq: 560C. (offered odd-numbered years). Normed linear spaces, Hilbert spaces, Hahn-Banach extension theorems, Banach-Steinhaus theorem, closed graph theorem, applications to differential and integral equations.

Staff; F; A; 1974.

761B Functional Analysis (5)

Prereq: 761A. (offered odd-numbered years). Topics selected from spectral theory, Banach algebras, integration in Banach spaces, linear topological vector spaces; and other topics.

Staff; W; A; 1974.

761C Functional Analysis (5)

Prereq: 761B. (offered odd-numbered years). Continuation of 761B. See 761B for description.

Staff; Sp; A; 1974.

780A General Topology (5)

Prereq: 680C. (fall). Continuation of main line of development of Math 680A-B-C, but at a deeper and more advanced level. Offered especially for those students who intend to specialize in general topology.

Staff; F; Y; 1975.

780B General Topology (5)

Prereq: 780A. (winter). Continuation of 780A. See 780A for description.

Staff; W; Y; 1976.

780C General Topology (5)

Prereq: 780B. (spring). Continuation of 780A-B. See 780A for description.

Staff; Sp; Y; 1976.

809 Topics in the Foundation and History of Mathematics and in Number Theory (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not offered in normal course offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y.

819 Topics in Algebra (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Detailed study of advanced topics not covered in other algebra courses. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1975.

829 Topics in the Teaching of Mathematics (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not covered in regular course offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y.

839 Topics in Geometry (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not covered in regular offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y.

849 Topics in Applied Mathematics (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not covered in regular offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

859 Topics in Probability, Statistics and Stochastic Processes (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not covered in regular offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

869 Topics in Real Analysis (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Selected topics not covered in regular offerings. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

879 Topics in Complex Analysis (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Special topics not ordinarily covered in other courses. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

889 Topics in Topology (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Special topics not covered in other courses. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

890 Independent Study (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). Independent study under guidance of faculty member. (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

891 Seminar (1-15)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

895 Dissertation (arranged)

Prereq: perm of graduate chairman. (fall, winter, spring, summer). (May be repeated for credit.)

Staff; F, W, Sp, Su; Y; 1976.

MECHANICAL ENGINEERING

(See Engineering, Mechanical)

MODERN LANGUAGES

(See Foreign Languages and Literatures)

MUSIC

Applied Music (Performance)

History and Literature

Theory and Composition

Music Education

To begin a graduate program in music a student is required to have completed, with at least a 2.5 accumulative average, an undergraduate curriculum in music from an accredited institution offering an undergraduate degree equivalent to the requirements of the National Association of Schools of Music.

The Graduate Record Examination is not required for admittance to the School of Music. However, any student who anticipates applying for financial assistance should take the GRE prior to entering a graduate program in music.

After admission has been granted, placement examinations in music theory and music history and literature are given to all entering graduate students during registration week of the first quarter of enrollment. Music education majors

are required to take an additional examination in music education. Performance majors must audition and demonstrate graduate level performance proficiency; all other majors must demonstrate proficiency on a principal instrument. The results of these placement tests are used in planning the student's course of study. Deficiencies in undergraduate preparation should be removed during the first year of study.

All graduate programs are based upon the completion of a minimum of 45 quarter hours of work beyond the bachelor's degree. A thesis or its equivalent is required in all programs except in music education where a 48 quarter hour (minimum) nonthesis program, including specified research courses, is available. Generally the work will be taken in the field of music; however, non-music courses may be taken with the approval of the student's major advisor. Majors in applied music present a public recital, while majors in composition present a composition in a large form in lieu of a thesis. In certain cases the student in music education may apply to the Graduate Committee of the School of Music for permission to present a graduate recital in lieu of a thesis. An oral examination is required of all candidates. Students in music education not holding standard certification are required to earn Ohio certification in addition to the normal program.

Applied Music

540 Voice (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

541 Piano (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

542 Stringed Instruments (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

543 Woodwind Instruments (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

544 Brass Instruments (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

545 Percussion Instruments (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

546 Organ (1-4)

Prereq: perm. Not open to applied majors. Maximum credit allowed toward graduation: 6 hrs.

F, W, Sp; Y.

547 Ensemble (1, max 6)

Prereq: perm.

F, W, Sp; Y.

548 Accompanying (1, max 3)

Basic problems in accompanying singers and instrumentalists — rehearsal techniques, ensemble, pedaling, balance, etc. May be repeated.

F, W, Sp; Y.

550 Voice (4-6)

Prereq: perm. For applied majors only. Maximum credit allowed toward graduation: 22 hrs.

F, W, Sp; Y.

551 Piano (4-6)

Prereq: perm. For applied majors only. Maximum credit allowed toward graduation: 22 hrs.

F, W, Sp; Y.

552. Stringed Instruments (4-6)

Prereq: perm. For applied majors only. Maximum credit allowed toward graduation: 22 hrs.
F, W, Sp, Y

553. Woodwind Instruments (4-6)

Prereq: perm. For applied major only. Maximum credit allowed toward graduation: 22 hrs.
F, W, Sp, Y

554. Brass Instruments (4-6)

Prereq: perm. For applied major only. Maximum credit allowed toward graduation: 22 hrs.
F, W, Sp, Y

555. Percussion Instruments (4-6)

Prereq: perm. For applied majors only. Maximum credit allowed toward graduation: 22 hrs.
F, W, Sp, Y

556. Organ (4-6)

Prereq: perm. For applied majors only. Maximum credit allowed toward graduation: 22 hrs.
F, W, Sp, Y

559A. Advanced Conducting (3)

Prereq: perm. Advanced reading and conducting of large works for orchestra.
F, Y

559B. Advanced Conducting (3)

Prereq: perm. Advanced reading and conducting of large works for choir. Standard and new works for public school and college groups.
Sp, Y

590. Piano Pedagogy (2)

Presentation of various teaching methods, techniques and repertoire used with the beginning student.
F, W, Sp, A

591. Piano Pedagogy (2)

Presentation of various teaching methods, techniques and repertoire used with the intermediate student.
F, W, Sp, A

699A. Recital (0)

Prereq: perm. Full-length public recital, a recording of which will be filed in library.
F, W, Sp, Su, Y

History and Literature**521. History of Musical Styles (3)**

History of musical styles from early Christian era to present.
A

522. History of Musical Styles (3)

Prereq: 521. Continuation of 521. See 521 for description.
A

523. History of Musical Styles (3)

Prereq: 521, 522. See 521 for description.
A

524. Literature of — (3)

a. vocal music; b. piano music; c. chamber music; d. orchestral music; e. organ music; f. opera music; g. orchestral instrument.
A

531. Ancient and Medieval Music (4)

Prereq: perm. Music as artistic and theoretical expression of antiquity and Middle Ages, history of musical styles to 1410.
A

532. Music of the Renaissance (4)

Prereq: perm. Musical styles ca. 1410 to ca. 1600.
A

533. Music of the Baroque Period (4)

Prereq: perm. Musical styles ca. 1600 to ca. 1730.
A

534. Music of the Classic Period (4)

Prereq: perm. Musical styles of Rococo and Classicism through first half of 19th century.
A

535. Music of the 19th Century (4)

Prereq: perm. Music as artistic expression of 19th century Romanticism.
A

536. Contemporary Music (4)

Prereq: perm. Music as artistic expression of our time. Various styles since ca. 1900.
A

537. Analysis of Music Notation (3)

Prereq: perm. Gregorian through Medieval modal notation.
F, D

538. Analysis of Music Notation (3)

Prereq: 537. Franco-Man and Ars Nova notation systems.
W, D

539. Analysis of Music Notation (3)

Prereq: 538. Continuation of 538.
Sp, D

600. Independent Study (1-15)

Prereq: perm.
D

620. Seminar in Theory and Music History and Literature (3, max 9)

(fall): Individual studies of problems in music history and theory. Methods of music research and use of music bibliography.
F, Y

695. Thesis (as recommended by dept) (1-6)**Theory and Composition****501. Theory Survey (3)**

Survey of harmonic usage in common practice period.
Y

502. Theory Survey (3)

Graduate review. Analysis of musical form.
Y

503. Theory Survey (3)

Graduate review. Sight-singing and dictation.
Y

505. Teaching of Theory (3)

Prereq: perm. Designed to meet needs of student who plans to teach theory at college level. Current materials and pedagogical approaches surveyed.
A; D

506. Teaching of Theory (3)

Prereq: 505. Continuation of 505. See 505 for description.
A, D

507. Counterpoint I (3)

Prereq: perm. (fall). 16th century counterpoint: practices and styles; Lasso and Palestrina.
F; A

508. Counterpoint II (3)

Prereq: perm. (winter). 18th century counterpoint: invention, canon, fugue.
W; A

509. Counterpoint III (3)

Prereq: perm. spring. Modern counterpoint: Hindemith, Bartok, 12-tone.
Sp; A

510. Composition (3)

Prereq: perm. Extensive writing in larger vocal and instrumental forms.
Y

511. Composition (3)

Prereq: 510. Continuation of 510. See 510 for description.
Y

512. Composition (3)

Prereq: 511. Continuation of 510-511. See 510 for description.
Y

513. Advanced Orchestration (2)

Prereq: perm. Problems in scoring original works for modern symphonic orchestra. Satisfactory scores are performed by Ohio University Symphonic Orchestra.
D

514. Advanced Orchestration (2)

Prereq: 513. Continuation of 513. See 513 for description.
D

515. Advanced Orchestration (2)

Prereq: 514. Continuation of 513-514. See 513 for description.
D

516. Styles I (3)

Prereq: perm. (fall). Analysis of 15th century music.
F, A

517. Styles II (3)

Prereq: perm. (winter). Analysis of post-Romantic music.
W, A

518. Styles III (3)

Prereq: perm. (spring). Analysis of 20th century music.
Sp, A

519. Techniques of Variation (3)

Prereq: perm. (winter). Analysis and writing of variations.
W, A

600. Independent Study (1-15)

Prereq: perm.
F, W, Sp, Su, Y

616. Evolution of Harmonic Theory (3)

Prereq: perm. Writings of most important music theorists from the 16th century to present.
A

617. Evolution of Harmonic Theory (3)

Prereq: 616. Continuation of 616. See 616 for description.
A

618. Evolution of Harmonic Theory (3)

Prereq: 617. Continuation of 616-617. See 616 for description.
A

620. Seminar in Theory and Music History and Literature (3, max 9)

Individual studies of problems in music history and theory. Methods of music research and use of music bibliography.
Y

695. Thesis (as recommended by dept) (1-6)

F, W, Sp, Su, Y

Music Education**561. 20th Century Music for General Music Classes (2)**

Analysis of form and style; literature; techniques of teaching 20th century music for elementary and secondary school students.
F; Y

563. Instrumental Techniques and Materials (4)

Advanced techniques for high school and college instrumental groups. Literature and materials.
F; Y

564. Marching Band Techniques (3)

Prereq: perm. Techniques for preparation of high school and college marching band performance.
F; Y

565. Choral Techniques and Materials (4)

Advanced techniques for high school and college vocal groups. Literature and materials.
F, Y

566. Problems in Elementary Music (3)

Advanced course in techniques and materials.
W; Y

567. Scoring for Bands (3)

Prereq: perm. Writing techniques for marching and concert band.
Sp, Y

568. General Music in Junior High (4)

Prereq: perm. Materials and methods, listening program, changing voice.
F, Y

571. Supervision of School Music (3)

Function of supervisor, consultant or coordinator of music in public schools. Curriculum development, teaching aids, in-service training and community-school relationships.
Sp, Y

576 Workshops and Institutes (1-4)

Prereq: perm. (a) music clinic-workshop, (b) elementary music workshop, (c) chamber music institute. *May be repeated for credit, but credit may be applied to degree electives only once for each workshop.*
D.

581 Psychological Foundations of Music I (3)

Prereq: perm. Nature and extent of psychological investigations bearing upon composition, performance and education in the field of music.
W; Y.

582 Psychological Foundations of Music II (3)

Prereq: 581. Continuation of 581. See 581 for description.
Sp; Y.

600 Independent Study (1-15)

Prereq: perm.
F, W, Sp, Su; Y.

670 Contemporary Trends in Music Education (4)

Problems, objectives and current practices in music education and related fields.
Sp; Y.

671 Advanced Topics in Music Education (4)

Prereq: perm. Examination of current methods of measuring aptitude and achievement in music and brief survey of elementary statistics used in research in music education.
W; Y.

672 Advanced Topics in Music Education (4)

Prereq: perm. Philosophical foundations of esthetics as applied in music education curricula of contemporary societies.
Sp; Y.

674 Experimental Studies (3)

Experimental methods as applied to problems of music and music education, including research in music education and related areas. Individual projects required.
D.

675 Seminar in Music Education (3)

Introduction to graduate study and research methods in music education. Individual studies and discussion of problems in music education.
F; Y.

677 Organization and Administration of School Music (3)

Prereq: perm. For directors of school music programs, or those who plan to enter music administration. Finance, organization and administration, personnel, materials and equipment. Individual projects and reports required.
D.

695 Thesis (as recommended by dept) (1-6)

Y.

OHIO PROGRAM OF INTENSIVE ENGLISH (OPIE)

OPIE 565 is a service program for nonnative speakers whose proficiency in English is not adequate to permit them to enroll in an unrestricted program of academic courses. *Credit hours for the courses of this program are for visa validation and tuition assessment only and are not applicable to degree requirements.* Enrollment in OPIE 565 for 15 hours is for full-time intensive study of English as a foreign language beginning at introductory or intermediate level. Initial enrollment at introductory level presumes continuation at intermediate level for a total of 20 weeks of full-time intensive study. No credit courses may be taken concurrently with full-time intensive English. Enrollment in OPIE 565 for eight hours is for part-time semi-intensive supplemental study of English at a more advanced level for students concurrently enrolled in a part-time program of degree credit courses.

INTRODUCTORY LEVEL FULL-TIME INTENSIVE ENGLISH. Five classroom practice and recitation

hours daily, plus individually scheduled required language laboratory practice. Primary emphasis on developing mastery of spoken English. Registration for 15 quarter hours.

INTERMEDIATE LEVEL FULL-TIME INTENSIVE ENGLISH: Prereq: intermediate proficiency level. Five classroom practice and recitation hours daily, plus individually scheduled required language laboratory practice. Emphasis on both spoken and written English usage. May follow introductory level. May be initial enrollment with required proficiency. Registration for 15 quarter hours.

ADVANCED LEVEL SEMI-INTENSIVE SUPPLEMENTARY ENGLISH: Prereq: advanced proficiency level. Two hours of classroom practice and recitation daily. Emphasis on both spoken and written English usage. Registration for eight quarter hours.

565 English as a Foreign Language (8-15)

Full-time intensive or part-time semi-intensive English for nonnative speakers.
Staff; F, W, Sp, Su; Y; 1975-76.

PHILOSOPHY

Only students who have received a 3.0 (B) average in their undergraduate courses in philosophy and a 2.5 average in other undergraduate courses will be admitted as majors in philosophy. It is recommended that for beginning a graduate major a student have taken at least 27 quarter hours (or 18 semester hours), including courses in ethics, symbolic logic, the history of ancient philosophy and the history of modern philosophy.

514 Analytic Philosophy (5)

Selected topics in contemporary Anglo-American philosophy from Moore to Wisdom.
Smith; W; A; 1975.

516 Philosophy of Science (5)

Prereq: perm. Analysis of selected problems in logic and methodology of sciences.
Ruchti; Sp; A; 1975.

518 Plato (5)

Wieman; F; A; 1975.

519 Aristotle (5)

Perotti; F; A; 1975.

520 Symbolic Logic II (5)

Prereq: perm. Informal and formal deductive systems, logic of relations, class logic.
Butrick; Sp; Y; 1976.

521 Proof Theory (5)

Prereq: 320 or equiv. (offered on demand). Syntax and semantics of formal theories.
Butrick; D.

522 Computability (5)

(offered on demand). Algorithms, recursive functions, Turing machines, decidability.
Butrick; D; 1973.

523 Modal and Many Valued Logics (5)

Prereq: 320. (offered on demand). N-valued logics, modal logic.
Corrado; D; 1974.

524 Foundation Theory (5)

Prereq: 320 or equiv. (offered on demand). Alternative bases for developing formal theories.
Butrick; D; 1973.

528 Continental Rationalism (5)

Descartes, Spinoza, Leibniz.
Corrado; F; 1975.

529 British Empiricism (5)

Locke, Berkeley, Hume.
Wieman; F; A; 1975.

530 Contemporary Ethical Theory (5)

Current literature in selected topics of moral philosophy.
Trevas; Sp; A; 1974.

531 History of Esthetic Theory (5)

Readings from Plato to Dewey and relation of these theories to selected arts and recent criticism.
Blocker; W; Y; 1975.

532 Problems in Esthetics (5)

For students interested in the arts but not necessarily in issues primarily of interest to philosophers. Writings drawn from modern sources on theory of art, esthetic criticism, creativity, truth in art and esthetic value.
Blocker; Sp; Y; 1976.

538 Kant (5)

Kant's *Critique of Pure Reason* with attention given to his ethical theory.
Stewart; Sp; A; 1976.

540 Contemporary Social Philosophy (5)

Smith; Sp; D; 1975.

542 Philosophy of Law (5)

Philosophical analysis of nature and justification of legal systems including examination of concepts of just laws and just legal systems.
Smith; F; Y; 1974.

544 Philosophy of Marxism (5)

Philosophical inquiry into classical and contemporary Marxist thought stressing Marx, Engels, Lenin, Stalin, Mao and several contemporary Marxists such as the "Praxis group" of Yugoslavia.
Borchert; F; Y; 1975.

548 Pragmatism (5)

Peirce, James, Dewey.
Trevas; Sp; A; 1976.

550 Theory of Knowledge (5)

Critical examination of various views of what knowledge is and how it is attained.
Ruchti; F; Y; 1975.

551 Metaphysics (5)

Basic alternative conceptions of the world, and such topics as substance, causality, self, freedom, space and time.
Corrado; W; Y; 1976.

552 Myth and Symbolism (5)

Characteristic expressions of thought in primitive societies and theories concerning primitive mentality.
Weckman; Sp; Y; 1976.

558 Contemporary German Philosophy (5)

Analysis of themes in Husserl, Heidegger, Scheler, Hartman, Dilthey, Cassirer, Gebser and Ingarden, stressing phenomenological roots as well as new philosophic directions.
Mickunas; Sp; A; 1976.

559 Contemporary French Philosophy (5)

Trends in contemporary French philosophy, stressing Sartre, Camus, Marcel, Merleau-Ponty and Ricoeur, emphasizing existential backgrounds of French thought and its adaptation of existential themes.
Stewart; Sp; A; 1975.

560 Contemporary Religious Thought (5)

Representative thinkers such as Tillich, Buber and others.
Grean; W; Y; 1976.

568 Phenomenology (5)

Method and philosophy of phenomenological movement from Husserl to Merleau-Ponty.
Mickunas; W; Y; 1976.

690 Supervised Teaching (2)

Supervised experience, including observation, discussion and counsel.
Staff; F, W, Sp; Y; 1976.

691 Seminar in Philosophy (1-15, max 15)

Selected problems.
Staff; D; 1975.

692 Special Studies (1-15, max 15)

Prereq: perm. Advanced study of philosopher, movement or problem, to provide intensified training in area of concentration related to but not necessarily that of student's thesis.
Staff; F, W, Sp, Su; Y; 1976.

693 Seminar in Philosophy (1-2, max 15)

Prereq: perm.
Staff; D; 1974.

695 Thesis (1-15, max 15)

Staff; F, W, Sp, Su; Y; 1976.

PHOTOGRAPHY

(See Art, Photography)

PHYSICAL EDUCATION

(See Health, Physical Education and Recreation)

PHYSICS

Graduate study and research leading to the master of arts, master of science and the doctor of philosophy are offered in physics. Students who plan to enter these degree programs are normally expected to have concluded successful undergraduate work in mechanics, electricity and magnetism, thermodynamics, optics, atomic and nuclear physics and quantum mechanics, and should also possess a working knowledge of mathematics comprising calculus, Fourier series, vector analysis and the elements of partial differential equations. Students who lack necessary preparation should do remedial work along with their normal program.

The program of study is developed for each student in close consultation with faculty advisors; emphasis is given both to individual needs and to general, broad requirements. The principal research activities in the department extend over cosmic physics, elementary particles, nuclear physics, ultrasonics, low temperature and solid state physics. Both experimental and theoretical studies are in progress in most of these areas; there is also theoretical work on many-body problems, nonlinear mechanics, relativity and electrodynamics. Special programs of graduate work outside these areas, or fully interdisciplinary programs, can in appropriate cases be devised to suit particular interests.

The following core courses are recommended to all students in their first two years of graduate study: 601-602, 605-606, 607-609, 615-616, 621-622, 623 and 735-736. Courses in related fields such as chemistry, engineering, mathematics and computer science are often included in the program. Participation in the weekly colloquium, 891, is required of all graduate students.

The MS degree can be earned by submission of a research thesis, with an oral examination. It can also be obtained under a nonthesis option which nonetheless requires satisfactory completion of a work project (laboratory assignment, literature search, essay, etc., at two to six credits), and must include coursework up to at least the level represented by 606, 608, 615, 622 and 623. The MA in physics is an option reserved for particular cases which may also call for substantial work in other fields; candidates must follow an approved program filed with the Graduate Committee and submit a scholarly paper based on these studies for approval by at least two readers. For every master's degree, 15 graduate credits in physics and approved electives are required.

No fixed number of credits is required for the PhD, but the student must first pass a comprehensive examination which consists of a written and an oral part, usually taken towards the end of the second year of graduate study (the first year for a student entering with an MS degree). Doctoral research is conducted under the supervision of an advisor and reviewed periodically by each student's dissertation committee. A final oral examination is held on the subject matter of the dissertation.

It is the policy of the department to encourage students to acquire and develop some knowledge of those foreign languages which are

commonly used in the literature of physics and related sciences. Students will be guided by their advisors in the matter of which languages they could most usefully study. For the PhD degree, a student must display an adequate reading knowledge of at least French, German or Russian.

503 Digital Computing Methods in Physics (3)
Practical computer programming (FORTRAN, etc.) with special emphasis on problems in physics.
Sp or Su

511 Thermodynamics (4)
First and second laws of thermodynamics, phase changes, and entropy. Temperature, thermodynamic variables, equations of state, heat engines. 3 lec, problems.
F

512 Kinetic Theory and Statistical Mechanics (4)
Kinetic theory, transport phenomena, and introduction to classical and quantum statistics. 3 lec, problems.
B

520 Acoustics (3)
Spring: Vibration, sound radiation, sound propagation and practical aspects of sound. Offered odd years only.
Sp; A

531 Basic Electrical Measurements Laboratory (3)
(fall): Electrical and electronic measurements and techniques including some basic vacuum tube and semi-conductor circuits analysis, and basic amplification techniques. Applications to measurements of electronic circuits, electric and magnetic fields, temperatures, etc.
F

551 Quantum Physics (4)
Quantum effects in atomic and molecular physics; basic ideas of quantum mechanics; solutions to Schrodinger equation of simple systems. 3 lec, problems.
F

552 Quantum Physics (4)
Quantum effects in atomic physics, identical particles and Pauli principle, application of quantum mechanics to interpretation of atomic spectra and structure. 3 lec, problems.
B

553 Nuclear and Particle Physics (4)
(spring): Descriptive treatment of nuclear phenomena. Elementary theory of nucleon-nucleon interaction. Systematics of nuclear structure (shell model and collective model). Properties and interactions of fundamental particles. Devices and techniques of nuclear and high energy physics.
Sp

556 Physical Science for Secondary School Teachers (1-7)
Prereq: deg. or perm. (summer) Major physical science concepts found in the Intermediate Science Curriculum Study Program.
Su

571 Solid State Physics (4)
(spring): Fundamental properties of solid state of matter.
Sp

575 Advanced Laboratory (1 hr per sect, max 3)
Wide selection of experiments from many areas of physics. Limit of 2 students per section. Student may select up to 3 different sections each qtr.

601 Graduate Laboratory (1-1)
winter: Selected experiments from all areas of physics requiring accurate measurements with refined apparatus.
B

602 Graduate Laboratory (1-1)
summer: Continuation of 601. See 601 for description.
Su

605 Classical Mechanics (5)
fall: Basic analytical techniques for point mass systems and rigid bodies in traditional and contemporary perspective; mathematical complement. 3 lec, intensive problems.
F

606 Classical Mechanics (5)
Continuation of 605. See 605 for description. 3 lec, intensive problems.
B

607 Electrodynamics (5)
fall: Deductive development from Maxwell's equations, including recent advances, special theory of relativity and applications to charged particle problems; mathematical complements. 3 lec, intensive problems.
F

608 Electrodynamics (5)
winter: Continuation of 607. See 607 for description. 3 lec, intensive problems.
B

609 Electrodynamics (5)
Continuation of 607-608. See 607 for description. 3 lec, intensive problems.

613 Mathematical Physics Practicum (2)
Selected mathematical techniques important to physicists.

615 Mathematical Methods in Physics (5)
fall: Mathematics to complement basic graduate physics courses. Curvilinear coordinates, special functions, Fourier analysis and others. 3 lec, intensive problems.
F

616 Mathematical Methods in Physics (5)
Continuation of 615. See 615 for description. 3 lec, intensive problems.
B

617 Methods of Theoretical Physics (3-5)
Selected advanced mathematical methods employed in theoretical physics. Group theory, linear operators and partial differential equations treated at regular intervals.

619 Advanced Acoustics (2)
Interaction of ultrasonic waves with gaseous, liquid and solid states of matter.

620 Advanced Acoustics (2)
Continuation of 619. See 619 for description.

621 Introductory Quantum Mechanics (5)
fall: Basic applications of Schrodinger equation, operators, eigenfunctions and uncertainty relations, angular momentum, spin, exchange and symmetry effects; perturbations; mathematical complements. 3 lec, intensive problems.
F

622 Introductory Quantum Mechanics (5)
winter: Continuation of 621. See 621 for description. 3 lec, intensive problems.
B

623 Thermophysics (6)
spring or summer: Thermodynamical principles, potentials and equilibrium criteria; ensembles, fluctuations and partition functions; statistics of Bose-Einstein, Fermi-Dirac and Boltzmann; applications to ideal systems. 4 lec, intensive problems.
Sp or Su

625 Atomic and Molecular Spectra (4)
General survey, using elementary quantum mechanics. 3 lec, problems.
Sp or Su

695 Thesis (as recommended by dept.)

696 Special Study (1-15)
Supervised individual study at beginning graduate level. Can be used for writing MS or MA paper.

720 Theoretical Acoustics (2)
Acoustic fields, scattering of acoustic waves and acoustic wave propagation.

726 Introduction to Nuclear Physics (4)
Experimental and basic theoretical aspects of interactions of particles in matter. Elements of nuclear structure and nuclear reactions. 3 lec, problems.

727 Introduction to Nuclear Physics (4)
Continuation of 726. See 726 for description. 3 lec, problems.

731 Introduction to the Solid State (4)
Structure and thermal, electronic, and magnetic properties of solids. 3 lec, problems.

732 Introduction to the Solid State (4)
Continuation of 731. See 731 for description. 3 lec, problems.

733 Introduction to the Solid State (4)
Continuation of 731-732. See 731 for description.
3 lec, problems.

735 Quantum Theory (4)
Matrix mechanics, formal developments, and methods of calculation; elements of scattering theory, phase analysis, and Born approximation; Dirac theory; mathematical complements. 3 lec, problems.
F.

736 Quantum Theory (4)
Continuation of 735. See 735 for description. 3 lec, problems.
W.

737 Second Quantization (3)
(spring). Basic techniques; emission and absorption of electromagnetic radiation; applications to many-body systems of diverse types.
Sp.

741 Statistical Mechanics and Thermodynamics (2-4)
(fall). Selected topics.
F.

742 Statistical Mechanics and Thermodynamics (2-4)
(winter). Continuation of 741. See 741 for description.
W.

744 Solid-State Theory (3)
Applications of quantum theory to perfect crystal and to imperfections in solids.

750 Introduction to Particle Physics (3)
Basic properties of subnuclear particles; relativistic kinematics, techniques of high energy physics; symmetry principles.

751 Particle Theory (3)
Theoretical formulations and current questions regarding nature of, and interactions between, subnuclear particles.

752 Particle Theory (3)
Continuation of 751. See 751 for description.

855 Nuclear Theory (3)
(fall). Theory of nuclear reactions and nuclear models.
F.

856 Nuclear Theory (3)
(winter). Continuation of 855. See 855 for description.
W.

871 Advanced Quantum Theory (3)
Selected topics.

875 Advanced Nuclear Theory (3)
(spring). Selected topics of current interest.
Sp.

877 Advanced Solid-State Theory (3)
(spring). Selected topics.
Sp.

891 Colloquium (1)
Selected topics of current interest. *Required of all graduate students.*

893 Seminar (1-4)
Thorough study of important area. Experimental techniques, classic experiments and statistical methods discussed at regular intervals.

894 Special Topics (1-4)
Lectures on special topics such as optical physics, continuum mechanics, advanced quantum theory or other subjects not specified under regular course headings.

895 Doctoral Research and Dissertation (as recommended by dept)

896 Special Study (1-15)
Supervised individual study in preparation for research.

897 Research Seminar (1-4)
Intensive study of selected subjects by special groups. (A) nuclear; (B) high energy; (C) acoustics; (D) solid state; (E) theoretical.

899 Problems in College Teaching (1-3)
For all graduate students assigned to teaching duties.

PORTUGUESE

(See Foreign Languages and Literatures)

PSYCHOLOGY

Applicants for graduate study in psychology must have completed at least 27 quarter hours of undergraduate psychology, including a course in statistics and one in experimental psychology, with a grade average of not less than 3.3 (B+) and an overall undergraduate average of 3.0 (B). A report of scores on the Graduate Record Examination (verbal, quantitative and advanced psychology), transcripts of all college work and recommendations from three psychologists are required. Applicants for the doctoral level must have a grade average of 3.4 in graduate courses completed and should present the same scores, transcripts and recommendations as the beginning student, with the addition of the Miller Analogies Test score.

The master's degree may be a terminal degree in general psychology. A specialized master's degree may be taken in experimental (general, developmental or social) or school psychology by those who want subdoctoral training which offers suitable preparation for positions in the public schools or in two-year college teaching. The master's degree may also be planned as preparation for doctoral study in experimental (general, developmental or social), or industrial/organizational psychology. Doctoral students in clinical or counseling psychology must complete a year of predoctoral internship in an approved agency.

The Center for Psychological Services, the Athens Mental Health Center and other local facilities provide opportunities for the training of graduate students in psychology, as well as services to University students, staff and faculty.

520 Elementary Statistics (5)
A first statistics course for graduate students who have not had such an undergraduate course. (*Does not carry degree credit.*)
Staff; F, W, Sp, Su; Y; 1975-76.

525 Elementary Experimental Psychology (5)
Prereq: perm. First course in designing experiments for graduate students who did not have such an undergraduate course. (*Does not carry degree credit. Not open to students who have had Psy 226.*) 2 lec, 4 lab.
Staff; F, W, Sp, Su; Y; 1975-76.

541 Behavioral Measurement (5)
Prereq: 520 or equiv. Testing and measurement; basic criteria including objectivity, reliability, validity. Methods of test construction and validation for students who have not had such an undergraduate course. (*Does not carry degree credit.*)
Feallock, Drevenstedt; F, W, Sp, Su; Y; 1975-76.

559 Field Work in Psychology (1-15)
Prereq: perm. Applied supervised psychological practice in field-work agency approved by dept. (*Does not count toward degree credit.*) May be repeated. 1-15 lab.
Staff; F, W, Sp, Su; Y; 1975-76.

590 Readings in Psychology (1-5, max 20)
Prereq: perm. To broaden training of master's or doctoral level students in areas in which they need further work which cannot be obtained through specific courses at present.
Staff; F, W, Sp, Su; Y; 1975-76.

618 Systems of Psychology (5)
Prereq: perm. Philosophy of science in psychology; nature of observation, theory construction and explanation, with an historical review of important systematic positions in psychology.
Moates; Sp; Y; 1975-76.

621 Intermediate Statistics for Behavioral Sciences (5)
Prereq: perm. Statistical inference and most commonly used tests of hypotheses involving normal curves, *t* test, chi-square and *F* distributions; in-

roduction to probabilistic classification and Bayesian statistics. 4 lec, 1 lab.
L. Waters; F; Y; 1975-76.

622 Intermediate Correlation and Regression (4)
Prereq: 621. Two-variable correlation and regression, partial and multiple correlation, non-linear relationships.
L. Waters; W; Y; 1975-76.

623 Design and Analysis of Experiments (4)
Prereq: 622 or EdRS 721. Independent groups, repeated measures and mixed analysis of variance designs. Matching statistical analyses to experimental procedures.
Bellezza; Sp; Y; 1975-76.

626 Advanced Experimental Psychology (3)
Prereq: 621. Experimental design and techniques. Individual experiments.
Bruning; Sp; D; 1975-76.

633 Psychology of Personality (3)
Prereq: perm. Development and organization of personality; evaluation of major theoretical viewpoints; review of research on personality structure, dynamics and change.
Russell; F, Su; Y; 1975-76.

640 Practicum in Intervention Strategies (4)
Prereq: 743A or with 743A. Supervised experience in selecting and administering tests to children referred for individual study; collecting educational and developmental data and integrating findings in reports and recommendations.
Bradshaw; W; Y; 1975-76.

677 Practice of School Psychology (4)
Prereq: perm. Responsibilities and activities of school psychologist.
Bradshaw; Sp; Y; 1975-76.

678 Supervised Field Experience in School Psychology (1-15)
Prereq: perm. Supervised experience in school psychology in public school setting. Apply before March 1 for following September. (*Does not count toward degree credit.*)
Bradshaw; F, W, Sp; Y; 1975-76.

695 Thesis (1-10)
Prereq: perm.
Staff; F, W, Sp, Su; Y; 1975-76.

701 Experimental Sensory Psychology (5)
Prereq: 712 or perm. Analysis of classical sensory systems (vision, audition, olfaction, somatic, regulatory, etc.) and their contributions to various behaviors. 4 lec, 1 lab.
Almli; W; D; 1975-76.

703 Advanced Learning (5)
Prereq: perm. Lectures and readings covering theoretical works in field of learning.
Lewis; Sp; D; 1975-76.

704 Human Learning and Cognitive Processes (5)
Prereq: perm. Theory and research in human cognitive processes such as learning, memory, concept formation, problem solving, mental operations, consciousness, motor skills and language within an information-processing point of view.
Schumacher, Arkes; F, Sp; Y; 1975-76.

706 Psychology of Communication (4)
Prereq: perm. Application of communication theory, psycholinguistic principles and readability measurement to process of communication, with emphasis on written communication.
G. Klare; F; Y; 1975-76.

707 Psycholinguistics (4)
Prereq: perm. How people produce, understand and acquire language within framework of major psychological and linguistic theories of language. Emphasis on user of language rather than on language.
Moates; Sp; A; 1975-76.

710 Motivation (5)
Prereq: perm. Dynamics of motivation including treatment of traditional theories as well as achievement and cognitive motivational theories.
Entin, Arkes; W, Sp; Y; 1975-76.

711 Perception (5)
Prereq: perm. Perception of time, space, motion and social phenomena.
Appel; Sp; D; 1974-75.

712 Physiological Psychology (5)

Prereq: perm. Biological basis of behavior, with emphasis on central nervous system. 1 lec, 1 lab.
Albini, E. Y. 1975-76.

714 Comparative Psychology (5)

Prereq: perm. Behavior of lower and higher organisms leading up to man.
J. Knorr, W. Y. 1975-76.

715 Psychology of Human Differences (5)

Prereq: perm. Methodology, basic principles and general findings in individual differences in intelligence, personality, interests and perception; group difference by sex, age, race and socio-economic class.
Staff, F. D. 1975-76.

717 History of Psychology (4)

Prereq: perm.
Staff, W. D. 1972-73.

727 Psychophysiology and Attention (4)

Prereq: perm. Human psychophysiology. 2 lec, 2 lab.
Kotler, E. Y. 1975-76.

735 Experimental Social Psychology (5)

Prereq: perm. Major theoretical and research trends, with emphasis on attitudes, social perception and small group behavior.
Lindskold, Sp. Y. 1975-76.

736 Advanced Social Psychology (5)

Prereq: perm. Major research and theoretical trends in social psychology; observational learning and social motivation.
Bruning, E. J. 1975-76.

737A Psychopathology, Clinical (3)

Prereq: perm. Theoretical and empirical literature on definitions and systems of classifying deviant behavior patterns. Coverage of situational reactions, neuroses, character disorders, psychoses, organic brain damage and mental retardation.
Gavke, E. Y. 1975-76.

737B Psychopathology, Research Survey (3)

Prereq: perm. Intensive surveys of research literature in selected areas of psychopathology including problems of classification, symptoms and treatment of psychoses, neuroses, personality patterns, mental retardation and specific learning disabilities.
Staff, F. D. 1970-71.

737C Psychopathology of Childhood (3)

Prereq: perm. Definitions and models of deviant childhood behavior. Comparisons of child and adult patterns of clinical psychopathology. Attention to physical, learned and social bases of deviant behavior.
Appel, McNamara, W. Y. 1975-76.

741A-X Assessment I (1-5)

Prereq: perm. Introduction to various intelligence, personality and behavioral observation tests and techniques. 741A Individual Intelligence testing; 741B Individual Intelligence testing: Adult; 741C Individual Intelligence testing: Child.
Appel, Bradshaw, Drieschner, W. Sp. Y. 1975-76.

742A-X Assessment II (1-5)

Prereq: 741, perm. Work with more specialized and advanced tests and observational techniques. 742A Individual Intelligence testing, Stanford-Binet; 742B Personality; 742C Behavioral Observation; 742D Neurological.
Drieschner, Sauer, W. Sp. Y. 1975-76.

743A-X Assessment III (1-5)

Prereq: 742, perm. Integrated personality evaluation from clinical testing. 743A Exceptional Children; 743B Objective Personality tests; 743C Projective Personality test.
Bradshaw, W. Sp. Y. 1975-76.

745A-X Assessment Practicum (1-8)

Prereq: perm. Introduction to and application of basic assessment and clinical skills. May be repeated. 745A General Clinical Skills; 745B Intelligence testing; 745C Personality testing; 745D Behavioral Observation; 745E Neurological assessment; 745F Exceptional Children.
Staff, F. W. Sp. Y. 1975-76.

753 Therapy I: Overview (1-5)

Prereq: "A" perm. Survey of various therapies offered by department faculty.
Staff, W. Y. 1975-76.

759 Field Work in Psychology (1-15)

Prereq: perm. Applied supervised psychological practice in a field work agency approved by dept. Does not count toward degree credit. May be repeated. 1-15 lab.
Staff, F. W. Sp. Su. Y. 1975-76.

761 Seminar in Industrial Psychology I (4)

Prereq: perm. Selected topics. Student may enroll in either 761 or 762 or in both courses in either order.
I. Waters, D. 1975-76.

762 Seminar in Industrial Psychology II (4)

Prereq: perm. Selected topics. Student may enroll in either 761 or 762 or in both courses in either order.
Staff, D. 1971-72.

763 Human Factors (1-5)

Prereq: perm. Psychological factors in human information-processing, decision-making, signal detection and man-machine systems.
Staff, D. 1969-70.

764A-G, J-K Advanced Industrial Psychology (3 each)

Prereq: perm. Student may take up to 6 of the following: A. Selection and evaluation; B. Training; C. History of industrial psychology; D. Job satisfaction; E. Leadership and supervision; F. Motivation and production; G. Social psychology of organizations; J. Small-group dynamics; K. Cross-cultural comparative organizational behavior.
I. Waters, Ferguson, Arbuthnot, D. 1975-76.

773 Developmental Psychology (5)

Prereq: perm. Principles and research covering development of human abilities and behavior with emphasis on a lifespan approach. Topics include variables influencing development; basic processes in development; and prenatal, physical, perceptual, cognitive, linguistic, motivational, emotional, social, and personality development.
Schumacher, E. Y. 1975-76.

775 Psychology of Exceptional Individuals (5)

Prereq: perm. Characteristics and problems of exceptional individuals; mentally retarded, mentally superior, sensory handicapped, emotionally disturbed and culturally disadvantaged.
Appel, Bradshaw, E. Y. 1975-76.

776 Programmed and Computer-Assisted Instruction (4)

Prereq: perm. Use of programs and machines; principles and procedures in preparing programs; writing of objectives and frames for trial program.
G. Klare, D.

790 Readings in Psychology (1-5, max 20)

Prereq: perm. To broaden training of master's or doctoral level students in areas in which they need further work which cannot be obtained through specific courses at present.
Staff, F. W. Sp. Su. Y. 1975-76.

791 Research (1-5)

Prereq: perm. (May be repeated.)
Staff, F. W. Sp. Su. Y. 1975-76.

793 Seminar in Teaching of Psychology (2)

Prereq: perm.
Staff, Sp. Y. 1975-76.

825 Advanced Regression (4)

Prereq: 623. Multivariate techniques in analysis of behavioral data.
Staff, D.

826 Advanced Testing Principles (4)

Prereq: 623. Test theory and statistical considerations in construction, use and interpretation of psychological measures.
Staff, D.

827 Advanced Quantitative Methods (4)

Prereq: perm. Advanced instruction in selected central techniques for identifying and quantifying traits or characteristics. Techniques of multivariate analysis, Bayesian analysis, analysis of variance, nonparametric analyses and multidimensional scaling.
Frail, J. D.

828 Psychological Data Analysis by Computer (4)

Prereq: 623. Computer library programs used to analyze data; multiple regression, factor analysis,

multivariate analysis of variance and discriminant analysis procedures employed. Statistical foundations of these procedures discussed also.
Bellezza, W. Y. 1975-76.

833 Advanced Theories of Personality (5)

Prereq: 633. Analysis in depth of selected modern theories and related research, taken from ego psychology, cognitive perceptual, dimensional, developmental or social viewpoints.
Gavke, Russell, D.

853A-X Treatment II (1-5)

Prereq: 755, perm. Theory and practice in various types of psychotherapy. 853A Individual Psychotherapy; 853B Behavior Modification; 853C Community Psychology; 853D Counseling Psychology; 853E Child Therapy; 853F Family Therapy; 853G Group Therapy; 853H Gestalt Therapy.
Staff, F. W. Y. 1975-76.

954A-X Treatment III (1-5)

Prereq: 853, perm. Continuation of 853. 854A Individual Psychotherapy; 854B Behavior Modification; 854C Community Psychology; 854D Counseling Psychology; 854E Child Therapy; 854F Family Therapy; 854G Group Therapy; 854H Gestalt Therapy.
Staff, W. Sp. Y. 1975-76.

855A-X Practicum in Treatment (1-8)

Prereq: 853, or with 853, or 854A, perm. Supervised experience in counseling and psychotherapy. May be repeated. 855A Individual Psychotherapy; 855B Behavioral Modification; 855C Community Psychology; 855D Counseling Psychology; 855E Child Therapy; 855F Family Therapy; 855G Group Therapy; 855H Gestalt Therapy.
Staff, F. W. Sp. Y. 1975-76.

891 Research in Psychology (1-6)

Prereq: perm.
Staff, F. W. Sp. Su. Y. 1975-76.

894A-X Advanced Seminar in Psychology (1-5, max 18)

Prereq: perm.
Staff, F. W. Sp. Su. Y. 1975-76.

895 Dissertation (1-15)

Prereq: perm.
Staff, F. W. Sp. Su. Y. 1975-76.

QUANTITATIVE METHODS**500 Mathematical Economics Foundations (4 or 5)**

Introduction to differential calculus, integral calculus and linear algebra with economic and business models and application.
Staff, F. Y. 1974.

503 Statistical Quality Control (4)

Prereq: perm. Application of sampling theory to quality control in process control (i.e., control charts and sampling inspection (i.e., attribute and variable).
Staff, Sp. Y. 1975.

510 Statistical Foundations (4 or 5)

Introduction to probability theory, statistical distributions, sampling, estimation, testing and decision theory for economists and business administration.
Staff, D. 1973.

520 Introduction to Computers and FORTRAN (4)

Prereq: perm. Use of computers in organizations to store, process and deliver data. Information system, communications, real time and using FORTRAN language to solve problems.
Staff, I. W. Sp. Y. 1975.

525 Advanced FORTRAN (4)

Prereq: perm. Application of FORTRAN programming language to problems in marketing, finance, management, accounting and economics.
Staff, W. Y. 1975.

530 COBOL Programming (4)

Prereq: perm. Introduction to business-oriented computer language of COBOL.
Staff, W. Sp. Y. 1975.

534 Design of Experiments (4)

Prereq: perm. Nested, split plot, replicated design, multi-factor experiments, compounding fractional factorials, analysis of covariance.
Staff, D. 1970.

538 Nonparametric Statistics (4)

Prereq: perm. Appropriate statistical tests; power; asymptotic efficiency; parametric vs. nonparametric; Fisher's randomization method; run test; multi-sample tests, one-way ANOVA and two-way ANOVA; miscellaneous tests.
Staff; D; 1972.

541 Multivariate Analysis (4)

Prereq: perm. Multivariate normal distribution, chi-square and t-tests, discriminant function, principle components, analysis of covariance, applications.
Staff; D; 1973.

545 Forecasting Business Trends (4)

Prereq: perm. Forecasting techniques and methodologies as tools used by decision makers to provide basis for determining future business environments. Forecasting as means for integrating total corporate planning with technical marketing and financial planning.
Staff; D; 1972.

550 Sequential Analysis (4)

Prereq: perm. Theory of Wald's sequential probability ratio test, problems of composite hypotheses, Barnard sequential t-test, sequential interval estimation, applications of general sequential theory to special problems.
Staff; D; 1972.

551 Statistical Survey Techniques (4)

Prereq: perm. Techniques of small sample tests applied in opinion polling, business, economics and government.
Staff; D; 1974.

554 Intermediate Probability Theory (4)

Prereq: perm. Random variables—multidimensional (continuous and discrete), moments, moment-generating functions and expected values, limiting theorems.
Staff; F; Y; 1974.

555 Sampling Theory (4)

Prereq: perm. Estimation, tests of hypotheses, sampling, analyses of variance, design of experiments.
Staff; W; Y; 1975.

556 Regression Analysis (4)

Prereq: perm. Time series analysis, game theory, regression and correlation analysis and introduction to decision making.
Staff; S; Y; 1975.

560 Introduction to Decision Theory (4)

Prereq: perm. Sequential analysis, game theory, uncertainty due to ignorance of states of nature, utility and strategies.
Staff; D; 1972.

561 Bayesian Statistics (4)

Prereq: perm. Probability and statistics taught from Bayesian point of view.
Staff; D; 1973.

562 Bayesian Decision Theory (4)

Prereq: perm. Probability as a measure of degree of belief, Bayesian decision criterion, Markov processes, decision trees and value of information.
Staff; D; 1972.

580 Computer Systems and Design (4)

Prereq: perm. Architecture of computer and its auxiliary storage devices; data set organizations; real time, time sharing; assembly languages and compiler programs.
Staff; D; 1974.

581 Mathematical Methods of Marketing Analysis (4)

Prereq: perm. Quantitative techniques used in analysis of marketing problems and applications of these methods to problem situations. (Course will be taught on team basis with marketing and quantitative methods facilities.) (Same as Mkt 581.)
Staff; D; 1974.

585 Simulation (4)

Prereq: 401/614 or equivalent or perm. Development of models of complex management decision environments and their manipulation via computer simulation. GPSS programming language. Interpretation of simulation results. Application to problems in marketing, finance, and production.

590 Systems and Procedures (4)

Prereq: perm. Orderly study of detailed methods for collecting, organizing and evaluating information to improve operations of an organization.
Staff; W; 1973.

614 Operations Research (4)

Prereq: 201. Introductory survey of techniques of operations research, viewed as part of applied decision theory. Applications in fields of accounting, production, finance, and marketing stressed. Covers such topics as inventory models, linear programming, network analysis, scheduling models, and simulation. Interface with nonprofessionals and problem of implementation of solutions stressed.

635 Econometrics I (4 or 5)

Application of statistics to economic and business data, design and estimation of economic and business models, multiple regression theory and stepwise regression programs.
Staff; W; A; 1975.

636 Econometrics II (4 or 5)

Topical areas of econometrics such as autocorrelation, lagged variables, dummy variables, multicollinearity, simultaneous equation models and selected computer programs. (Same as Econ 636.)
Staff; S; A; 1975.

651 Nonparametrics for Business (4)

Prereq: perm. Mathematical models of probability theory and sampling with applications.
Staff; D; 1974.

691 Seminar (3, 4 or 5)

Selected topics of current interest.
Staff; D; 1972.

693 Readings (1-15)

Readings on topics selected by student in consultation with a faculty member.
Staff; F, W, S; A; 1975.

695 Thesis (1-15)

Staff; F, W, S; A; 1975.

697 Independent Research (1-15)

Research under direction of a faculty member.
Staff; F, W, S; A; 1975.

698 Internship (1-15)

Staff; F, W, S; D; 1972.

699 Research (3, 4 or 5)

Methodology, analysis of data and preparation of research findings.
Staff; F, W, S; D; 1975.

RADIO-TELEVISION**MASTER'S PROGRAM**

A prospective graduate student in the School of Radio-Television should present a baccalaureate degree which includes a reasonable background in radio-television and closely allied areas of communication. Because academic ability, experience records and personal recommendations weigh so heavily in considering the student for admission, some students will enter the radio-television graduate program without such a background. Upon the advice of their respective program committees, these students may be required to make up this deficiency through attendance at a workshop in the fundamentals of broadcasting which the school sponsors each year prior to the beginning of the fall term. In some cases individuals will be permitted to substitute undergraduate coursework for the workshop, according to their particular needs.

The typical master's candidate will pursue a program which consists of 45 quarter hours of credit, including up to five hours of credit for the thesis. At least 20 quarter hours will be taken in the major field, and at least 12 quarter hours will be taken in one or more supplementary areas. Depending on personal and career goals, some students, with the consent of the faculty, may pursue a nonthesis program of 52 quarter hours in the major field, including a minimum of 12 quarter hours in one or more supplementary areas, and

such other courses, work or research experiences as seem appropriate to the student's goals.

In either the thesis or nonthesis program the student is required to take R-TV 501—Introduction to Graduate Study. The nonthesis student is further required to take R-TV 602—Research Methods in Mass Communication. Students in either program are permitted to elect their supplementary area(s) either within or outside the College of Communication.

DOCTORAL PROGRAM

(See Mass Communication)

501 Introduction to Graduate Study (4)

Analysis of scholarship and research as a foundation for graduate study.
Staff; F; Y; 1975.

510 Principles of Television Production (4)

Production aspects of television and general principles of equipment operation and crew responsibilities. 2 lec, 4 lab.
Staff; D; 1973.

513 Advanced Radio Production-Direction (4)

Prereq: perm. Special problems in audio production, including documentary, live music, and dramatic presentations.
McDaniel; F; Y; 1976.

518 Advanced Television Production-Direction (4)

Prereq: perm. Individual and group projects in production of television program material.
Staff; W, S; Y; 1976.

519 Advanced Television Production-Direction (2)

Prereq: 518. Continuation of 518. See 518 for description.
Staff; D; 1974.

552 TV Newsfilm Production and Editing (3)

Prereq: perm. Principles and practices of TV newsfilm production and editing.
Staff; F, W; Y; 1976.

602 Research Methods in Mass Communication (4)

Statistics, problems, methods, and techniques of radio-television research.
Staff; F; Y; 1975.

631 Dramatic and Documentary Writing (4)

Writing and critique of form, structure and presentation of both dramatic and nondramatic programs and series. 4 lec.
Staff; F, S; Y; 1976.

632 Advanced Dramatic and Documentary Writing (4)

Prereq: perm. Advanced writing course in which experienced student creates substantive scripts in documentary and dramatic areas.
Miller; W; Y; 1976.

670 Broadcasting and the Public (4)

Interrelationships between broadcaster, government and public; bases for evaluation of role and significance of broadcasting in society. 4 lec.
Clift; S; Y; 1976.

694 Independent Study (1-12)

Prereq: perm. Individual research on special problems. Projects must be approved prior to registration.
Staff; F, W, S, Su; Y; 1976.

695 Thesis (1-8)

Staff; F, W, S, Su; Y; 1976.

703 Statistical Analysis in Mass Communication Research (4)

Prereq: 602 or perm. Statistical techniques as applied to problems in mass communication.
Staff; W; Y; 1976.

705 Research Internship (1-9)

Prereq: Acceptance by competition only. Opportunity for students to implement and complete major research study under supervision.
Anderson; F, W, S, Su; Y; 1976.

740 Radio and Television in Education (4)
Summary, analysis, application and evaluation of TV and radio research in teaching-learning process. 4 lec.
Staff, D., 1974

741 Instructional Methods in Educational Radio-Television (4)
Practical applications of television in public school classroom. Utilization of television programs as adjunct to instruction. Preparation of instructional units for telecasting. 2 lec, 4 lab.
Chitt, B. J., 1975

750 Broadcast Economics (4)
Economic structure of the broadcast and CATV industries, their relationships with other industries, fiscal policies and practices, sources and control of revenue, profit and expenses. Case studies in economic problems and practices.
Staff, W. Y., 1976

751 Broadcast Management (4)
Consideration and examination of theory and practice in broadcast station management, organization, personnel management and motivation, examination of role of station manager in relationship to various broadcast station operations.
Savage, F. W. Y., 1976

753 Broadcasting Law and Regulations (4)
Socio-political control of broadcasting; effect of laws, regulations and public pressures upon programming policies. 5 lec.
Staff, W. Y., 1976

755 Broadcasting Programming (4)
Programming concepts, resources, costs, selection and scheduling. 5 lec.
Staff, W. Y., 1976

757 Broadcast Sales and Sales Management (4)
Problems and practices of radio and television sales and sales management, policy formation, including projects devoted to commercial inventory and rate structure.
Savage, S. Y., 1976

767 Comparative Systems of Broadcasting (4)
Broadcasting systems of selected countries studied in terms of relevant political, social, economic, and cultural factors.
McDaniel, S. Y., 1976

769 International Broadcasting (4)
Development, effects and control of international broadcasting as instrument of foreign policy.
McDaniel, W. Y., 1976

771 Social Impact of Mass Communication (4)
Group and individual investigation into research methodology and literature on effects of mass media upon society, with particular reference to broadcasting. 4 lec.
Anderson, J. Y., 1975

779 History of Broadcasting (4)
Origin of US system of radio and television communication and its development to present.
Beeman, E. S. Y., 1976

786 Colloquium in Broadcasting (1-5)
Study and analysis of current issues and problems in radio-television.
Staff, D., 1974

804 Seminar in Mass Communication Research (4)
Prereq: 703. Intensive study of research methodology in radio-television scholarship; individual projects.
Anderson, S. Y., 1975

812 Seminar in Educational Radio-Television (4)
Intensive examination and evaluation of radio-television utilization in educational process.
Staff, D., 1974

813 Seminar in Pedagogy (4)
Problematic methods and techniques of teaching of radio-television at college level.
Rightmire, N. Y., 1974

865 Seminar in International Broadcasting (4)
Problems in socio-political control of broadcasting related to developing in terms of other nations and international implications of technological development of broadcast communications.
McDaniel, D., 1975

881 Seminar in Criticism (4)
Intensive examination of television as esthetic and cultural form. Analysis and practice of television criticism.
Miller, S. Y., 1976

894 Independent Study (1-12)
Prereq: perm. Individual research on special problems. Projects must be approved prior to registration.
Staff, F. W. S. Y., 1976

895 Dissertation (1-24)
Staff, F. W. S. Y., 1976.

RUSSIAN

(See Foreign Languages and Literatures)

SOCIOLOGY

A graduate major in sociology offers preparation for teaching, research and advanced graduate training. Undergraduate preparation should include 20 quarter hours in sociology, at least 16 quarter hours in other behavioral sciences and a course in statistics.

The Departmental Graduate Student Handbook details the organization of the MA program, and is available upon request. Briefly, each student admitted to MA study selects three faculty members to serve on his or her committee, preferably by the end of the second quarter. Decisions concerning the student's preparation, i.e., course choice, scheduling and independent study, are made by the committee. Graduate evaluation by thesis, comprehensive examination or other means is determined by the committee.

A minimum of 50 quarter hours of graduate work is required for the degree. The student is advised to allow for six quarters of study.

503 Development of Sociological Thought (5)
Prereq: perm. Major sociological concerns and concepts in their social-historical setting. Emphasis on 18th and 19th centuries.
Thio, Staff, D., 1974.

504 Modern Sociological Theory (5)
Major sociological conceptual frameworks in 20th century.
Sutherland, Thio, Staff, F. Y., 1976.

505 Readings in Sociology (1-5, max 15)
Independent directed readings designed to expand student's understanding in selected area of interest. Students may not preregister. Registration only by permission of instructor.
Staff, F. W. S. Y., 1976.

508 Latin American Society (5)
Prereq: perm. Intensive study of Latin American society from a sociological perspective. Emphasis on contemporary Latin American values, population problems, man-land relations, levels and standard of living, social institutions, urbanization and social change.
Wagner, Y., 1976.

512 Public Opinion Processes (5)
Attitudes and opinions in relation to formation of public opinion, political socialization and participation; social status, reference groups, decision-making, role of mass media.
Harlan, S. Y., 1975

513 Mass Communication (5)
Personal and social functions of content in newspaper, radio, television and films. Types of audiences and communication effects. Organization and control of mass media and problems in evaluation.
Harlan, Staff, S. Y., 1976.

514 Contemporary Social Movements (5)
Organized movements resulting in major social changes: revolutionary, nationalistic, reform, religious. Agitation, leadership, ideology. Case studies of typical movements.
Harlan, F. Y., 1976

516 Society and the Individual (5)
Exploration of compatibilities and contradictions in psychological systems, culture and social structure.
Krebs, D., 1974

519 Small Groups (5)
Small group as unit of social systems, communication patterns, role definition, leadership, cohesion, etc.; review of current literature.
Shelly, D., 1975

521 Comparative Study of Family and Marriage (5)
Intra-cultural and cross-cultural differences and similarities in marriage patterns and family types, their social and cultural determinants and consequences and their significance for family life.
Lee, Y., 1976.

522 The American Family System (5)
Evolution of American family from colonial to present time. Analysis of structural and functional trends in light of theory and research.
Lee, A., 1975

524 Urban Sociology (5)
Historical development and recent emergence of city as dominant feature of modern social life. Demographic and ecological patterns and social organization of urban region.
Wagner, Y., 1976

525 Rural Sociology (5)
Examination of structural characteristics of agricultural sector of American society. Historical developments and current trends in demography as they relate to industrialization of agriculture, and examination of responses to these trends.
Krebs, W. Y., 1976.

526 Industrial Sociology (5)
Interrelationships between industrial and social order. Social organizations and processes within formal and informal structures of industrial unit.
Sheak, Y., 1976

528 Sociology of Religion (5)
Prereq: perm. Interrelationship between religious institutions and social structure from comparative perspective but with particular reference to American society.
Kuhre, Ergood, Y., 1974

530 Sociology of Organization (5)
Organization and structure of social groups. Basic cultural patterns of economic, kinship and other institutions. Interaction and disintegration of social groups and institutions.
Garslin, D., 1976.

531 Social Stratification (5)
Social and economic classes, castes and other social strata, their origin, changes and correlates in other spheres of society.
Garslin, Staff, A., 1976

532 Political Sociology (5)
Social and cultural basis of influence, power and authority. Informal aspects of political process in groups and institutions other than government.
Krebs, Sheak, J., 1975

533 Sociology of Occupations and Professions (5)
Prereq: perm. Professionalism as characteristic of modern economic and industrial complexes, popular conception and modern theory, social and technological preconditions, occupation-profession continuum, components, barriers and strategy, mock-professionalism, motivation and satisfaction controls, professionalism in particular professions.
Sutherland, D., 1974

541 Population Theories (5)
Major theoretical transceivers in population analysis. How they account for changes in fertility, mortality and migration. Impact of these changes on human society.
Sutherland, D.

550 Social Statistics (5)
Prereq: perm. Principles and procedures in treatment and presentation of quantitative social data.
Staff, D.

553 Research Problems in Sociology (1-5, max 15)
Prereq: 550 and written perm. Students may not preregister. Registration only by perm of instructor. Individual research problem areas in which student has demonstrated ability and interest.
Staff, F. W. S. Y., 1976

564 Social Control (5)

Nature of institutional control and sociocultural constraint as they affect human behavior. Theories and research.

Burkhardt, Thio; D; 1976.

565 Social Change (5)

Dynamics and processes by which social change takes place; major theories of change; industrialization and modernization; planned change; social impact of change.

Burkhardt, Harlan; W, Su; Y; 1976.

600 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

601 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

602 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

603 Seminar in Social Disorganization (4-6)

Prereq: perm. Critical examination of topics in area of social disorganization.

Shamblin; D; 1975.

604 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

605 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

606 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

607 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

608 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

609 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

610 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

611 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

612 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

613 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

614 Graduate Seminar (4-6)

Prereq: perm. Critical examination of selected topic.

Staff; D.

616 Propaganda Techniques and Objectives (5)

Prereq: 512, 513 or equiv. Use of mass communication to instigate behavioral change; psychological warfare, international political propaganda, coercive persuasion; individual and group susceptibility; methods of propaganda analysis.

Harlan; D.

654 Social Research Methods (5)

Analysis of process of sociological research in terms of problem definition, research design, data sources and methods of data analysis.

Shelly, Harlan, Krebs; W; Y; 1976.

690 Independent Study (1-5, max 10)

Prereq: Written perm of departmental grad chairman and 40 grad hrs in sociology. For grad students in good standing who wish to undertake independent study toward MA degree under guidance of faculty member.

Staff.

695 Thesis (1-12, max 12)

Prereq: perm.

Staff; F, W, Sp, Su; Y; 1976.

SOUTHEAST ASIAN STUDIES

(See International Affairs)

SPANISH

(See Foreign Languages and Literatures)

SPEECH

(See Hearing and Speech Sciences or Interpersonal Communication)

SWAHILI

(See Foreign Languages and Literatures)

THEATER

The School of Theater offers programs leading to master of arts and master of fine arts degrees. Graduate candidates are required to participate in the production activities of the school in supplementation and extension of their academic work.

The production program of the school is conducted in two adjoining buildings. The first is Kantner Hall, housing a comfortable and well-equipped proscenium theater, a small studio-classroom theater, scenery and costume laboratories and related facilities. A second theater, incorporating a thrust stage and capable of modification for use in various theatrical forms, is located in the Radio-Television Communication Building next door.

An applicant for admission must possess a baccalaureate degree from an accredited college or university, and present an academic background which correlates with the student's professional goals. For unconditional admission, the student must have a satisfactory academic record, with strong indications of success in his or her chosen area, and sufficient preparation to qualify for graduate courses to be included in the program. Any deficiencies must be made up by taking appropriate undergraduate courses without graduate credit, or graduate courses in addition to normal requirements.

Applicants for entrance into one of the professional MFA programs must demonstrate qualification by audition, submission of portfolio, interview or other appropriate means before final approval is granted. This requirement is in addition to the basic admission standards for entrance into the graduate program of the School of Theater.

Since 1973-74 Ohio University's School of Theater has been cooperating with other schools in the League of Professional Theater Training Programs in a joint effort called Concurrent Auditions. This concurrent audition procedure is designed to assist the serious applicant in meeting and auditioning for representatives from these various training programs during a set period of time in a particular city. We should emphasize that the purpose of these concurrent auditions is not to provide a joint viewing of an applicant by all

schools involved, as each school will continue to administer its own particular audition and admissions procedure, but rather to provide serious applicants a significant saving in time and expense required to audition for several schools by allowing them to meet several audition processes in one city during a one- or two-day period.

It is expected that each candidate will have a firm grounding in theater history and dramatic literature as well as demonstrable proficiency in fundamental production techniques, or that coverage of these areas will be included in his or her graduate program. Students will be requested to demonstrate a satisfactory grasp of basic areas upon entering the school.

Throughout the program the student will be closely observed and counseled by the faculty and his or her progress will be reviewed formally at periodic intervals. At the end of any quarter he or she may be recommended for transfer to another sequence or degree program within the school, required to modify his or her program or denied further enrollment as a degree candidate in the School of Theater.

Each graduate student will, at the earliest opportunity after enrolling, submit (with the counsel of his or her major advisor) a complete program of proposed courses. This will include a major sequence and, as appropriate to the student's needs and career goals, a minimum of 12 credits of approved supplementary courses within or outside the School of Theater.

MASTER'S PROGRAMS

The MA degree is fundamentally a scholarly program in history of theater and dramatic literature in pursuance of which the candidate has two options. The basic requirement of 45 hours beyond the baccalaureate degree and the passing of a departmental comprehensive examination may be completed in three quarters of residence, or the candidate may elect to extend his or her residence to four or more quarters, in which case a greater diversity of courses may be selected presumably to culminate in from six to 12 hours in a thesis project of a scholarly or critical nature.

The MFA degree requires a residence period of at least six quarters, a minimum of 72 quarter hours of graduate credit beyond the baccalaureate degree (12 of which may or may not be thesis). The decision as to whether the student will submit a thesis or appropriate graduate credits will be made by the faculty upon recommendation of the advisor.

The major field will be selected from one of the following professional sequences: acting, directing, production design, playwriting and children's theater. The major will consist of 30 to 60 hours and a minimum of 12 hours will be chosen outside the area of concentration.

Following are the special requirements of major sequences:

Acting

Admission to the professional sequence in acting is by audition only. At the end of each quarter the student will be notified whether he or she may proceed into the next level. Minimum course requirements include 48 credits in acting courses, 12 credits in other appropriate courses within or outside the school and a thesis or 12 additional credits of nonthesis courses.

Production Design

Admission to this professional sequence is granted to the student who qualifies on the basis of a design portfolio and/or a personal interview with the design staff. The student must take work in

areas of scene design, costume design and lighting and technology. The major program will include a minimum of 16, 12 and eight quarter hours distributed in these three areas according to his or her option. In addition to 16Ar 500, the student will also take at least eight hours of theater history, ten credits of electives of which three hours must be outside the School of Theater and a culminating seminar in production design. The thesis requirement may be met by a research study or a creative project or by 12 hours of approved non-thesis courses.

Directing

Admission to the professional directing sequence will be limited to a few carefully selected applicants chosen on the basis of experience and potential as demonstrated through personal interview, recommendations and, if needed, examination. The student's progress will be monitored carefully and the student will be permitted to continue only through demonstrated aptitude and accomplishment. Minimum course requirements include 48 credits in directing, 12 credits in theater history and literature courses and 12 additional credits in approved elective courses in acting, design, theater management, production internship or thesis for a total of 72 hours of credit. The program will include a series of practical production experiences in directing, culminating in the staging of a significant directorial project.

Students interested in a program in children's theater should pursue a degree in directing.

Playwriting

Students are accepted only after submission of representative examples of previous creative writing and or personal interview. Continuation in the program is dependent upon satisfactory progress in development of dramatic writing skills and mastery of critical concepts. Minimum course requirements include a major of at least 30 credits in dramatic and or creative writing and dramatic literature courses, 12 credits in theater history and 12 elective credits in appropriate courses outside the major. The thesis may be a creative project or a research study.

500 Introduction to Graduate Study (3)

Fall. Professional literature and conduct of research in theater arts. 3 lec.
Staff: F; Y; 1975.

502 Theater Management (4)

Management in performing arts. 3 lec.
Frazee; W; Y; 1976.

510A Advanced Rehearsal and Performance (8)
Intensive studio practice in performing advanced roles.
Staff: F; Y; 1975.

510B Advanced Rehearsal and Performance (8)
Continuation of 510A. See 510A for description.
Staff: W; Y; 1976.

510C Advanced Rehearsal and Performance (8)
Continuation of 510A and 510B. See 510A for description.
Staff: Sp; Y; 1976.

515 Styles in Acting (4)

Acting in relation to form and content of pre-modern and nonrealistic drama.
Staff: W; Y; 1975.

516 Advanced Stage Speech (3)

Vocal action for classical drama and dialects. 1 lec, 3 lab.
Hahne; F; Y; 1975.

517 Advanced Stage Speech for Directors (2)

Prereq: 516. Extension of 516, designed especially for student of directing to enhance and strengthen perceptual insight into vocal life of actor and to use skills acquired in 516 for exploration and experimentation with organic possibilities for vocal dramatic action.
Hahne; W; Y; 1976.

530 Technical Direction (4)

Winter. Role and responsibilities of technical director.
St. Laurence; W; Y; 1976.

531 Advanced Lighting (4)

Prereq: perm. (fall). Light as element of design.
St. Laurence; F; Y; 1975.

533 Practicum in Design or Technical Production (1-12)

Prereq: perm.
Lacy; F; W; Sp; Y; 1976.

534 Advanced Scene Design (4)

Prereq: perm. (fall). Scene design styles of pre-modern drama, theory and practices.
Lacy; F; Y; 1975.

535 History of Costume (4)

Fall. Development of costume from pre-Greek era; emphasis on clothing as reflection of western cultural development. 4 lec.
Staff: F; Y; 1975.

536 Advanced Costume Design (4)

Prereq: 535. (winter). Advanced problems and projects in theatrical costume.
Staff: W; Y; 1976.

538 Studies in Makeup (3)

Prereq: perm. Advanced problems in theatrical makeup design and execution.
Staff: F; W; Y; 1976.

550 Playwrights Workshop (3, max 9)

Prereq: perm. Practical workshop study and production of plays written by students.
Quinn; W; Sp; Y; 1976.

560 Philosophy of Directing (4)

Prereq: perm. Seminar in philosophy of directing that serves as basis for directing sequence.
Sherman; F; Y; 1975.

561 Directorial Problems in Working with Actors (4)

Prereq: perm; directing major. Practical problems for director in working with and training actors.
Sherman; F; Y; 1975.

562 Play Analysis for Directors (4)

Prereq: 560 and perm. Detailed work in play structure and analysis for director's preparation of script.
Sherman; W; Y; 1976.

563 Detailed Scene Work for Directors (4)

Prereq: 560, 561, 562 and perm. Direction of various scenes from a single play through presentation and evaluation.
Sherman; W; Y; 1976.

564 Director/Designer Communication (4)

Prereq: perm. Techniques and procedures used by directors and designers in preparing a production.
Sherman; Staff: Sp; Y; 1976.

565 Rehearsal Techniques and Procedures (4)

Prereq: perm; directing major. Rehearsal techniques and procedures used in preparing a production.
Sherman; Sp; Y; 1976.

566 Stage Management (3)

Prereq: perm. Theoretical course in techniques and methods of professional stage management.
Sherman; St. Laurence; F; Y; 1975.

575 Dramatic Criticism I (4)

Fall. Principles of dramatic criticism from Aristotle to modern theater. 3 lec.
Quinn; F; Y; 1975.

576 Dramatic Criticism II (4)

Prereq: 575 or perm. (winter). Modern dramatic criticism from time of Ibsen to present. 3 lec.
Quinn; W; Y; 1976.

588 Musical Theater Projects (1-4)

Prereq: perm. (summer). Participation in selected musical theater projects announced in advance of registration. Orientation may be either research or production.
Winters; F; W; Sp; Su; Y; 1976.

610A Advanced Problems in Acting and Performance (8)

Prereq: 510A,B,C; perm.
Staff: F; Y; 1975.

610B Advanced Problems in Acting and Performance (8)

Prereq: 510A,B,C; perm. Continuation of 610A.
Staff: W; Y; 1976.

610C Advanced Problems in Acting and Performance (8)

Prereq: 510A,B,C; perm. Continuation of 610A and 610B.
Staff: Sp; Y; 1976.

630 Advanced Technical Direction (4)

Prereq: 530.
Lacy; Sp; Y; 1976.

631 Advanced Lighting Techniques (4)

Prereq: 531. (winter).
Lacy; W; Y; 1976.

634 Advanced Scene Techniques (4)

Prereq: 534.
Lacy; W; Y; 1976.

636 Advanced Costume Techniques (4)

Prereq: 536. (spring).
Lacy; Sp; Y; 1976.

695 Thesis (1-12)

Prereq: perm.
Staff: F; W; Sp; Y; 1976.

698 Individual Projects (1-12, max 12)

Prereq: perm.
Staff: F; W; Sp; Su; Y; 1976.

699 Independent Readings (1-12, max 12)

Prereq: perm.
Staff: F; W; Sp; Su; Y; 1976.

702 Theater Administration (4)

(spring). Organization and administration of education, community and resident theater.
Frazee; Sp; Y; 1976.

705 Directed Instruction (1-3, max 9)

Prereq: perm. Supervised practice in instructing.
Staff: F; W; Sp; Su; Y; 1976.

713 Internship in Acting (1-12)

Prereq: acting major and perm.
Staff: F; W; Sp; Su; Y; 1976.

730 Advanced Technical Studies (4, max 8)

Prereq: perm.
Lacy; F; W; Sp; Y; 1976.

731 Advanced Lighting Studies (4)

Prereq: 631.
Lacy; F; W; Sp; Y; 1976.

733 Internship in Design or Technical Production (1-12)

Prereq: production design major.
Lacy; Staff: F; W; Sp; Su; Y; 1976.

734 Studies in Scene Design (4, max 12)

Prereq: perm.
Lacy; F; W; Sp; Y; 1976.

736 Studies in Costume Design (4, max 12)

Prereq: 536; perm.
Lacy; F; W; Sp; Y; 1976.

750 Seminar in Dramatic Writing (4-8, max 16)

Prereq: perm.
Quinn; F; W; Sp; Y; 1976.

760 Directing Period Plays (4)

Prereq: perm; 45 hrs of grad credit in theater. Principles and techniques of staging period plays.
Sherman; F; Y; 1975.

761 Directing Theories (4)

Prereq: perm; 45 hrs of grad credit in theater. Theories of directing from Delsarte to Grotowski.
Sherman; W; Y; 1976.

762 Directing for the Contemporary Theater (4)

Prereq: perm; 45 hrs of grad credit in theater. Problems and practices involved in directing contemporary drama.
Sherman; Sp; Y; 1976.

763 Internship in Directing (1-12)

Prereq: directing major; perm.
Staff: F; W; Sp; Su; Y; 1976.

770 Greek Theater and Drama (4)

First in series of 8 seminars covering in depth theater and drama of western world from pre-historic times to contemporary. 3 lec.
Conover; F; Y; 1975.

- 771 Roman and Medieval Theater (4)
Conover; W; Y.
- 772 Renaissance Theater and Drama (4)
Conover; Sp; Y.
- 773 Restoration and 18th Century Theater (4)
Quinn; D; 1973.
- 774 Baroque European Theater (4)
Quinn; F; Y; 1976.
- 775 19th Century European Theater (4)
Quinn; W; Y; 1975.
- 776 Contemporary Theater (4)
Quinn; Sp; Y; 1976.
- 777 American Theater and Drama (4)
Kaufman; Sp; Y; 1976.
- 830 Seminar in Production Design (3)
Prereq: perm.
Lacy; Sp; Y; 1976.
- 870 Seminar in Theater History (4)
(May be repeated as topic changes.)
Quinn; Sp; A; 1976.
- 875 Seminar in Dramatic Criticism (4)
(May be repeated as topic changes.)
Quinn; Sp; A; 1975.

ZOOLOGY

Zoology

Microbiology

For admission to graduate study in zoology or microbiology a student must have an accredited baccalaureate degree and have completed at least 27 quarter hours in biological sciences including at least three of the following areas: anatomy, ecology, embryology, evolution, genetics and physiology. In addition, training in mathematics, physics and organic chemistry is required. Deficiencies in these areas must be removed sometime during the course of graduate study. The Graduate Record Examination is required of all applicants.

Foreign applicants whose native language is not English must submit scores from either the Test of English as a Foreign Language (TEFL) or the English Test of the University of Michigan English Language Institute, Ann Arbor, Michigan.

Master's candidates are expected to complete 45 quarter hours, including a minimum of 29 hours of formal courses and seminars. A nonthesis master's program is available for secondary school or junior college teachers.

Doctoral candidates are recommended to complete 135 quarter hours, including a minimum of 45 hours of formal course and seminars. Proficiency of reading knowledge of one foreign language and one scholarly discipline such as biostatistics or computer science is required for all doctoral candidates.

Research may be done in one of the following areas: cell biology, ecology, entomology, ethology, microbiology, physiology and vertebrate and invertebrate zoology.

At least one quarter of supervised teaching within the department is required of all master's students during their tenure in the department. Doctoral candidates have a two-quarter teaching obligation.

Zoology

- 504 Comparative Vertebrate Anatomy — Mammalian (6)
Prereq: perm. (fall). Continuation of 303. Anatomy of mammals with particular emphasis on the cat. 3 lec, 6 lab.
Allen; F; Y.

- 506 Vertebrate Embryology (6)
Prereq: perm. (winter, spring). Development from gametogenesis to organogenesis in representative vertebrate types with laboratory emphasis given to chick and pig. 4 lec, 4 lab.
Peterson; W, Sp; Y.

- 508 Histology (6)
Prereq: perm. (winter). Cells, tissues and organ systems with regard to their morphological and physiological properties. 4 lec, 4 lab.
Heck; W; Y.

- 527 Molecular Genetics (3)
Prereq: perm. Gene action and fine structure; biochemistry of heredity; cytoplasmic inheritance. 3 lec.
McQuate; W; A; 1975-76.

- 528 Human Genetics (4)
Prereq: perm. Genetics of man including normal and abnormal chromosomology; human biochemical genetics; genes in individuals, kindreds, populations, and evolution. 4 lec.
McQuate; W; A; 1976-77.

- 530 Invertebrate Zoology (6)
Prereq: perm. Structure, function, and systematic relationships among full range of invertebrate phyla. 3 lec, 6 lab.
Hummon; Sp; A; 1975-76.

- 533 General Protozoology (6)
Prereq: perm. (fall; alternate yrs). Structure, life histories, physiology and relationships of representatives from all major groups of protozoa. 3 lec, 5 lab.
Peterson; F; A; 1974-75.

- 535 General Entomology (6)
Prereq: perm. (spring). Overview of morphology, systematics, physiology and general biology of insects. 3 lec, 6 lab.
Romoser; Sp; Y.

- 537 Medical Entomology (4)
Prereq: perm. (winter). Relationship of insects and related arthropods to human disease. 3 lec.
Romoser; W; Y.

- 538 Topics in Insect Physiology (3)
Prereq: perm. (fall; alternate yrs).
Romoser; F; A; 1974-75.

- 539 Field Entomology (5)
Prereq: 535 recommended. (spring). Systematics, evolution, ecology and behavior of insects with emphasis on field collection and identification.
Romoser; Sp; Y.

- 541 Parasitology (6)
Prereq: perm. (spring). Etiology of human parasites, their transmission, diagnosis and prevention. 3 lec, 6 lab.
Heck; Sp; Y.

- 542 Helminthology (6)
Prereq: perm. (fall; alternate yrs). Biology of parasitic worms with emphasis on physiology, classification, life histories and host response. 3 lec, 6 lab.
Heck; F; A; 1974-75.

- 545 Physiology of Exercise (4)
Prereq: perm. (fall). Fundamental concepts describing reaction of organ systems to exercise/muscle metabolism and work evaluation; special reference to physical fitness, sport conditioning and environmental adaptations to exercise. 4 lec. (Same as HPER 414/514.)
Hagerman; F; Y.

- 546 Physiology of Exercise Laboratory (2)
Prereq: perm; required for those enrolled in 445/545. (fall). Laboratory experiences designed to complement 445/545. 4 lab. (Same as HPER 415/515.)
Hagerman; F; Y.

- 548 Cell Physiology (4)
Prereq: Organic chemistry; physics recommended. Fundamental processes involving physical and chemical reactions at cellular and molecular level. Nutrition, energy metabolism, excretion, responsiveness, and growth investigated in depth. 4 lec.
Wilson; F; Y; 1975-76.

- 549 Cell Physiology Laboratory (4)
Prereq: 548 or with 548, perm. Laboratory experiments designed to illustrate experimental bases of principles discussed in 548. 6 hrs lab and arr.
Wilson; Sp; Y.

- 550 Principles of Endocrinology (4)
Prereq: 560 or 548 recommended. (fall). Endocrine control of mammalian homeostasis and metabolism. 4 lec.
Jones; F; Y.

- 551 Endocrinology Laboratory (4)
Prereq: 550. (spring). Experimental techniques pertinent to study of endocrine glands including surgical ablation. 6 lab.
Jones; Sp; Y.

- 560 Animal Physiology (5)
Prereq: perm. General and comparative physiology emphasizing principal functions underlying life processes. Emphases on physiological adaptations to environment and neurophysiological systems. 4 lec.
Wilson; W; Y.

- 561 Animal Physiology Lab (4)
Prereq: 560 or with 560, perm. Lab exercises designed to illustrate experimental basis of principles covered in 560. 6 and arr. lab.
Wilson; Sp; Y.

- 563 Cell Chemistry (4)
Prereq: perm. (fall, spring). Chemistry of carbohydrates, lipids, proteins and nucleic acids. Principles of enzyme activity and kinetics; metabolic pathways. 4 lec.
Wilson; F, Sp; Y.

- 573 Ethology (6)
Prereq: perm. Analysis of exogenous and endogenous factors which regulate behavior of invertebrates and vertebrates. 4 lec, 4 lab.
Rovner; F; A; 1977-78.

- 574 Mammalogy (6)
Prereq: perm. (fall). Mammals; their origin, evolution and adaptations, geographical distribution, ecology and systematics. Emphasis on local fauna. 4 lec, 4 lab.
Svendsen; F; Y.

- 575 Animal Ecology (3)
Prereq: perm. (winter). Relation of animals to their habitat, to each other and to man. General principles of terrestrial and aquatic communities, ecosystems and man's involvement. 3 lec.
Seibert; W; Y.

- 576 Ecology Laboratory (2)
Prereq: 575 or with 575. (spring). Field course for animal ecology, consisting of visits to and studies of various local terrestrial and aquatic communities. 4 lab.
Seibert; Sp; Y.

- 577 Population Biology (4)
Prereq: perm. Quantitative aspects of genetics and ecology of both plant and animal populations, with emphasis on a conceptual framework and its application to natural populations. 4 lec.
Hummon; F; Y.

- 578 Population Biology Laboratory (3)
Prereq: 577 or with 577, perm. Field and laboratory exercises designed to illustrate and supplement concepts treated in 577. 6 lab.
Hummon; F; Y.

- 579 Evolution (4)
Prereq: 325. Current concepts of evolutionary processes; sources of variability, adaptation, speciation, coevolution, phylogeny, and ascendancy of man. 4 lec.
Svendsen; W; Y.

- 580 Biological Research Methods (2-4)
Prereq: perm.
Graduate faculty; F, W, Sp; Y.

- 580A Microscopy and Photomicrography (3)
Peterson; F; Y.

- 646 Comparative Physiology (6)
Prereq: perm. Comparative study of homeostatic mechanisms and systems in organisms and their relation to fundamental chemical and physical events in cells. Includes ionic and water balance; cardio-vascular regulation and function; role of reflex arcs and autonomic nervous system controls; respiratory mechanisms; evolution of various systems. 3 lec, 6 lab.
Graduate faculty; W; Y.

- 652 Advanced Endocrinology (3-4)
Prereq: perm. Discussion of current research in mammalian endocrinology. Emphasis on reproduction controls and mechanisms. 3 lec.
Jones; W; Y.

670 Biostatistics (5)

Prereq: ISE 503 or perm. (spring). Principles of analysis of variance, multiple regression and correlation, principal components, canonical correlation, discriminant function and factor analysis and their application to solution of biological problems. 4 lec and arr.

Stendien, Sp; Y

680 Techniques in Electron Microscopy (6)

Prereq: perm. (fall, winter). Principles and methods for preparation of biological specimens for ultrastructural analysis and research, and some associated techniques. Instruction in microscope operation and maintenance and darkroom techniques.

Hikida, F, W; Y

682 Advanced Topics (1-3)

Prereq: perm. Specialized topics not otherwise available to advanced students.

Graduate faculty, F, W, Sp, Y

685 Research in Zoology (1-15)

Prereq: perm. Unspecified research, not directly applicable to a thesis.

Graduate faculty, F, W, Sp, Su; Y

695 Master's Thesis (1-15)

Prereq: perm. Research directly applicable to a thesis.

Graduate faculty, F, W, Sp, Su, Y

709 Biological Ultrastructure (3)

Prereq: perm. Investigation of cells, organelles and some organ systems, correlating data on their ultrastructure, chemistry, and function. 3 lec.

Hikida, Sp; Y

730B Biology of Spiders (1-6)

Prereq: perm. Selected aspects of physiology, behavior, and ecology of spiders.

Roemer, W; J, 1976-77.

750A Muscle Biology (1-5)

Prereq: perm. Topics in muscle structure, function, development, disease, and relationship with nervous system. Different aspects of muscle biology covered each term, and topics chosen on basis of need or requests of interested students.

Hikida, F, Sp; Y

756 Comparative Neurophysiology (5)

Prereq: 518 or 560, perm. Principles of comparative, integrative neurophysiology, lectures, and seminar. 3 lec, 2 sem.

Graduate faculty, W; A

770A Animal Communication (1-6)

Prereq: perm. Advanced study in zoosemiotics; evolutionary aspects of form and function of signal, transmission channel, and receiver.

Stendien, Roemer, Sp; A

770B Theoretical Ecology (1-6)

Prereq: perm. Examination of ecological problems from theoretical and mathematical standpoint.

Hummon, Stendien, Y; D

770C Wildlife Ecology (2)

Prereq: perm. Analysis of characteristics of wildlife populations as related to their management, community interaction, and evolution.

Stendien, F, A

770D Behavioral Ecology (1-6)

Prereq: perm. In-depth treatment of fundamental problems dealing with manner in which a finite amount of space and energy is distributed among species through behavioral adaptations.

Stendien, Sp; A

779 Experimental Animal Ecology (6)

Prereq: 477 or 577 and perm. (alternate yrs). Research methods in ecology with emphasis on collecting, quantifying and portraying data obtained during course, includes population density, dispersion, dynamics and interactions and community productivity, metabolism and succession. 2 lec, 6 lab and field work and arr.

Hummon, Sp; A, 1974-75

780 Neurophysiological Techniques (6)

Prereq: perm. Intensive examination of electrophysiological techniques employed in neurophysiological research. Emphasis on microelectrode recording methods.

Graduate faculty, W; A

852 Advanced Endocrinology (3-4)

Prereq: perm. Discussion of current research in mammalian endocrinology. Emphasis on reproduction controls and mechanics. 3 lec.

Jones, W; Y

870 Biostatistics (5)

Prereq: ISE 505 or perm. (spring). Principles of analysis of variance, multiple regression and correlation, principal components, canonical correlation, discriminant function and factor analysis and their application to solution of biological problems. 4 lec and arr.

Stendien, Sp; Y

880 Techniques in Electron Microscopy (6)

Prereq: perm. (fall, winter). Principles and methods for preparation of biological specimens for ultrastructural analysis and research, and some associated techniques. Instruction in microscope operation and maintenance and darkroom techniques.

Hikida, F, W; Y

895 Doctoral Dissertation (1-15)

Prereq: perm.

Graduate faculty, F, W, Sp, Su; Y

Microbiology

511 General Microbiology (6)

Prereq: perm. (fall, winter). Properties of microorganisms and their importance in our environment. Laboratory training in common microbiological methods. 3 lec, 6 lab.

Maier, Downey, F, W; Y

512 Microbiological Techniques (4)

Prereq: 511, perm. Semi-independent course gives microbiological major extensive experience in use of bacteriological techniques and equipment; information retrieval. 2 lec, lab arr.

Maier, W; Y

513 Pathogenic Bacteriology (6)

Prereq: 511, winter. Microorganisms in relation to disease. Disease manifestations, diagnostic and control methods, some aspects of immunity. 3 lec, 6 lab.

Laurence, W; Y

514 Virology (4)

Prereq: perm. Viral and rickettsial agents pathogenic to man and animals. Isolation and identification methods, physico-chemical and biological properties. Pathology, cure and prevention of selected prototype diseases. 2 lec, 4 lab.

Walker, W; Y

515 Immunology (6)

Prereq: 511, spring. Fundamental concepts of immunity, how produced, advantages and disadvantages, fundamental immunological phenomena. 3 lec, 6 and arr lab.

Walker, Sp; Y

517 Advanced General Microbiology (6)

Prereq: 511. Selected topics: cell structure, staining, sporulation, growth, variation, biochemical tests. Extensive assigned readings in current literature. 3 lec, 6 lab.

Laurence, F; Y

518 Epidemiology (4)

Prereq: 511, 537 or 531 and perm. Mode of spread, cure, and prevention of communicable diseases in humans. 3 lec, 2 lab.

Walker, F, W; Y

519 Bacterial Physiology (6)

Prereq: 511, spring. Nutrition, function and metabolism of bacteria, pertinent laboratory work illustrating fundamental principles and various experimental techniques. 3 lec, 5 lab.

Maier, Sp; Y

527 Molecular Genetics (3)

Prereq: perm. Gene action and fine structure; biochemistry of heredity, cytoplasmic inheritance. 3 lec.

McQuate, W, 1975-76.

616 Immunochimistry (6)

Prereq: perm. (fall). Types of antigens and antibodies; significance in disease and research. Principles and techniques of isolation, purification and assay. Special immunological phenomena. 3 lec, 6 and arr lab.

Walker, F; Y

682 Advanced Topics (1-3)

Prereq: perm. (upon demand). Specialized topics not otherwise available to advanced students.

Graduate faculty, F, W, Sp; Y

685 Research in Microbiology (1-15)

Prereq: perm. Unspecified research, not directly applicable to a thesis.

Graduate faculty, F, W, Sp, Su; Y

695 Master's Thesis (1-15)

Prereq: perm. Research directly applicable to a thesis.

Graduate faculty, F, W, Sp, Y

720 Microbial Genetics (6)

Prereq: 511, biochemistry recommended; perm. Genetics of bacteria, viruses, and selected protists. Techniques and concepts with emphasis on transfer and biochemical expression of genetic material. 3 lec, 6 lab.

Staff, Sp, A, 1975-76.

895 Doctoral Dissertation (1-15)

Prereq: perm.

Graduate faculty, F, W, Sp, Su, Y

Departmental Faculty

This listing of Ohio University's faculty was compiled and verified by the Office of the Provost as of May, 1976. The regional campus faculties are listed separately after the main campus faculty.

Accounting and Quantitative Methods

Prof: Warren Reininga, William Voss (chairman)
Assoc. Prof: Thomas Bolland, Paul Dunlap, Abdul-Wahab Hammood, Clarence Stephenson
Asst. Prof: James Cox, Ellsworth Holden, Donald Stuchell
Lect: William Kelton

Administrative Sciences

Prof: Victor Grieco, S. Benjamin Prasad, Robert Raymond, Scott Walton
Assoc. Prof: Azmi Mikhail, Kahandas Nandola, Harlan Patterson, Dwight Pugh (chairman), David Richmond, Lawrence Zudak

Aerospace Studies

Prof: Drexel B. Cochran (chairman; visiting)
Asst. Prof: Kent Freshwater (visiting)
Lect: Charles Brown (visiting)

Art

Prof: John Baldwin, David Hostetler, William Kortlander, Dana Loomis, Clifford McCarthy, Donald Roberts
Assoc. Prof: Robert Borchard, Aethelred Eldridge, Arnold Gassan, Abner Jonas, David Klahn (director), Ronald Kroutel, Edward Mayer, Karen Nulf, Gary Pettigrew
Asst. Prof: Terrill Eiler, Alexandra Herz, Mary Manusos, Judith Perani, Gary Schwindler (visiting), Douglas Thompson, Daniel Williams, James Winebrenner

Instr: David Silverman, Carolyn Thomas

Aviation

Assoc. Prof: Francis Fuller (chairman)
Instr: Lance Dale
Lect: Joan Mace

Black Studies

Prof: James Barnes (dean)
Assoc. Prof: Francine Childs
Assist. Prof: Robert Rhodes, Lindiwe Pettiford, Cosmo Pieterse, James Upton
Instr: Rodney Sampson

Botany

Dist. Prof: Norman S. Cohn
Prof: Mordecai J. Jaffe, Laurence A. Larson, Charles Miller (chairman), Irwin Ungar, Warren Wistendahl
Assoc. Prof: Arthur Blickle, James Braselton, James Cavendar, Herbert Graffius, Robert Lloyd, John Mitchell, Ivan Smith
Asst. Prof: Gar Rothwell

Chemistry

Dist. Prof: William D. Huntsman
Prof: Jesse Day, Lawrence Eblin, David Hendrick, Robert Ingham, John G. Jewett (dean), Robert Kline (chairman), Howard Latz, Robert Simpson, James Tong
Assoc. Prof: Peter Griffiths, Clifford Houk, Gary Pfeiffer, Paul Sullivan, Thomas Wagner, Gene Westenbarger, Robert Winkler

Classical Languages

Prof: Paul Murphy
Assoc. Prof: Harry Hultgren (chairman)

Comparative Arts

Prof: James Conover, Robert Wortman (chairman)
Assoc. Prof: Michael Harper, Barry Katz
Asst. Prof: Jessica Timmis

Computer Science

Assoc. Prof: Yin-Min Wei
Asst. Prof: Craig Farrar, Larry Irwin (chairman)

Dance

Prof: Gladys Bailin, Shirley Wimmer (director)
Assoc. Prof: Patricia Welling
Instr: Eileen Cohan (part-time)

Economic Education

Prof: Kenneth Light, Roman Warmke (chairman)
Assoc. Prof: Gerald Draayer

Economics

Dist. Prof: Lowell E. Gallaway, Lee C. Soltow
Prof: Douglas Adic, Edwin Charle, Harry Crewson, Burton DeVeau, Lowell Gallaway, Ismail Ghazalah (chairman), David Klinganman, Rajindar Koshal, David Levinson, Meno Loven-

stein, Svetozar Pejovich, John Peterson, Fred Picard, Lee Soltow, Richard Vedder

Assoc. Prof. Paul Deuster, J. Andrew Potemra, Vishwa Shukla

Asst. Prof. Dana Hewins

Education — Applied Behavioral Sciences and Educational Leadership

Prof. Gifford Crowell, Samuel Goldman (dean), Loyde Hales, Albert Shuster, Joseph Sligo, Thomas Sweeney, J. Melvin Witmer

Assoc. Prof. Robert Barcikowski, Max Evans (director), Fred Dressel, James Grubb, Luther Haseley, Donald Knox, O. Paul Roaden, James Rodgers

Asst. Prof. Walter Abendroth, James Hartman, Russell Thomas

Instr. Leonard Ostlund (part-time), Lorraine Rand (part-time)

Education—Educational Media

Asst. Prof. Seldon Strother

Education—Curriculum and Instruction

Prof. Robert Boyd, William Cooper, Charles D'Augustine, Margaret Felsing, Albert Leep (director), Edward Lynn, John Masla, Lester Mills, Len Pikaart, Milton Ploghoft, Sadek Samaan, Ray Skinner, Gilbert Stephenson

Assoc. Prof. Jason Hunk, Elsie Helsel, Larry Jageman, Monroe Johnson, Don Leighty, John Mangieri, Ragy Mitias, Paul Ploutz, Charles Smith, Edward Stevens, James Thompson, Karl Weiner

Asst. Prof. Amy Allen, Arthur Clubok, Yona Leyser, Sally Navin, Reba Pinney, Sally Schaaf, Barbara van der Veur

Instr. Sharon Arthur, Barbara Hoffman

Education—Professional Laboratory Experience

Prof. John Evans (director)

Assoc. Prof. Ann Hoy

Asst. Prof. Albert Ginther, Florence Manning

Instr. William Bartels, Howard DeLamatre, Herman Humphrey (part-time), Harold Kimball (part-time), Harry Lackey (part-time), Henry Lavanty, Jane Meyers, Donna Powers (part-time)

Engineering, Chemical

Prof. William Baasel, Calvin Baloun (chairman), John Collier, Nicholas Dinos, Harold Kendall, Robert Savage

Engineering, Civil

Prof. Irvin Badger, Harry Kaneshige, Reuben Olsson (chairman), Carl Shermer

Assoc. Prof. Glen Hazen, Edward Russ

Engineering, Electrical

Prof. Hollis Ching Chen, Wu-Kai Chen, James Gilfert, Harry Hoffee, Harold Klock, Richard McFarland, G.V.S. Raju (chairman), Gustavus Smith

Assoc. Prof. Joseph Essman

Instr. Ralph Burhans, Brian Manhire

Engineering Graphics

Prof. Menno DiLiberto (chairman), Thomas Sar-chet

Engineering, Industrial and Systems

Prof. Edward Gamble, Charles Overby, Donald Scheck, Ralph Smith, Robert Williams (chairman)

Assoc. Prof. Helmut Zwahlen

Engineering, Mechanical

Prof. Otto Adams, Ian Chen, Lewis Hicks, Roy Lawrence (chairman)

Assoc. Prof. William Beale

English

Dist. Prof. Roma A. King (part-time), Edward Stone, Hollis S. Summers

Prof. Taylor Culbert, James Davis, Wayne Dadd, Frank Fieler, John Jones, Daniel Keyes, Earl Knies (chairman), Lester Marks, John Matthews, Edward Mitchell, Robert Roe, Neville Rogers, James Schmidt, Duane Schneider, Rainer Schulte, Harold Swardson, Walter Tevis, Calvin Thayer, James Thompson, Gerald Udell, Arvin Wells, Edgar Whan, Peter Heidtmann, Vance Ramsey

Assoc. Prof. Laurence Bartlett, David Bergdahl, Lurene Brown, Frank Cronin, Samuel Crowl, Robert DeMott, Raymond Fitch, Roy Flanagan, David Heaton, John Hollow, Reid Huntley, Ernest Johansson, William Kuhre, Julia Lin, Stanley Lundberg, Helen MacKenzie, Dean McWilliams, Ben Park, Cosmo Pieterse, Edward Quattrochi, Barry Roth

Instr. Sheila Williams (part-time)

Film

Assoc. Prof. George Semsel

Asst. Prof. David Prince (acting director)

Geography

Prof. Hubert Wilhelm

Assoc. Prof. Frank Bernard, James Cobban, Bobbie Walter (chairman)

Asst. Prof. Nancy Bain, Ronald Isaac, Lynden Williams

Instr. Hubert Bloemer, Margaret Ottum (visiting)

Geology

Prof. Moid Ahmad, Stanley Fisher, Myron Sturgeon, Robert Yeats

Assoc. Prof. Willard Phelps, Geoffrey Smith (chairman)

Instr. Gene Heien

Government

Prof. Richard Bald, Ernest Collins, Willard Elsbree, Raymond Gusteson, Joseph Tucker, Paul van der Veur

Assoc. Prof. Edward Baum, David Dabelko, Felix Gagliano (chairman), James Harold Moh-nieu, Alexander Prusley, David Williams

Asst. Prof. Alan Aichinger, James F. Barnes, James Henderson, Ronald Hunt, Joyce Huntley (part-time), Loch Johnson, Sung Kim, Patricia Richard, Thomas Walker

Health, Physical Education, and Recreation

Prof. James Lavery (director)

Assoc. Prof. John McComb, Charles Higgins, Freda Phillips, Bobbie Schmidt, William Stewart

Asst. Prof. Catherine Brown, Judith Cole, Tiff Cook, Ronald Dingle, Mary Gillespie, David Jacoby, Joyce King, Lynn Simon, Ronald Whitaker, Owen Wilkinson, Richard Woolison

Instr. James Gilmore (part-time), Joan Kappes (part-time), William Sells (part-time), Deborah Westfall

Hearing and Speech Sciences

Prof. Claude Kantner, Jon Shallop, Sadanand Singh

Assoc. Prof. Dean Christopher, Joann Fokes, Donald Fucci (director)

Asst. Prof. Robert Blackman, Zinny Bond, Emily Buckberry, Richard Dean, Norman Garber, Ronald Isele

Instr. Helen Conover, Gary Lawson, Steve Osh-rin, Paul Miller

History

Dist. Prof. Carl G. Gustavson

Prof. Charles Alexander, Alan Booth (chairman), Robert Daniel, John Gaddis, Alonzo Hamby, William Kaldis, George Lobdell, Suzanne Shiers, Bruce Steiner

Assoc. Prof. Douglas Baxter, Phillip Bebb, James Chastain, Gifford Doysee, Marvin Fletcher, Richard Harvey, Donald Jordan, Lyle McGeech, Roy Rauschenberg, Compton Reeves, Donald Richter, Robert Whealey

Asst. Prof. Phyllis Field

Home Economics

Prof. Beulah Sellers (director)

Assoc. Prof. Mary Doysee, Mary Ann Lewis, Julia Nehls, Shirley Slater, Ernest Stricklin, Betty Jo Sullivan

Asst. Prof. Ellen Goldsberry, Martha Graham, Erma Langford, Alice Lockard, Judy Matthews, Ann Wade

Instr. Jean Harlan

Consultant. Lavern Dillon

Industrial Technology

Prof. William Creighton, Robert Hawlk, Howard Shull, Albert Squibb (chairman)

Assoc. Prof. Richard Nostrant

Asst. Prof. John Adams, Arlen Saunders

Instr. William Reeves

Interpersonal Communication

Prof. Paul Boase (director), Robert Goyer, Gordon Wiseman

Assoc. Prof. Charles Carlson, Ted Foster, Michael Sineoff, John Timmis, Richard Whitman

Asst. Prof. William Edie, Maung Gyi, Ray Wagner, Raymond Beatty

Journalism

Prof. Russell Baird, Robert Baker, Hugh Culbertson, Norman Dohn, Ralph Izard, Ralph Khesch, Guido Stempel (director), Arthur Turnbull

Assoc. Prof. John Click, Donald Lambert, Randall Murray, Byron Scott

Asst. Prof. Roger Bennett, Thomas Peters

Instr. Herbert Amey (part-time), John Chalfant (part-time), Thomas Dunlap (part-time), Dru Everts, Robert Maney (part-time), Karl Runser (part-time), Marjorie Stright (part-time), Giovanna Verna

Linguistics

Assoc. Prof. Robert Dakin, Gilbert Schneider, Marmo Soemarmo (chairman)

Asst. Prof. James Coady

Instr. David Sjafroeddn

Mathematics

Prof. Robert Blair, Robert Butner, Carl Denbow, Victor Goediecke, Robert Helsel, S. K. Jain, Samuel Jasper, Donald Norris (chairman), Paul Reichelderfer, Ray Spring, Howard Wicke, John Worrell

Assoc. Prof. Robert Atalla, Klaus Eldridge, Elery Golos, David Keck, Cyrus Mehr, M.S.K. Sastry, Hari Shankar, John Gillam, Paul Malcolm, Larry Snyder, Shih-Liang Wen

Asst. Prof. Charles Lustfield, James Shirey, Robert Vancko

Military Science

Prof. Name not available at time of publication; to be announced after the beginning of fall quarter.

Asst. Prof. John S. Fulton (visiting), Robert High (visiting)

Instr. Joseph L. Dennison (visiting), Harvey Yanko (visiting)

Modern Languages

Prof. Wallace Cameron, Philip Flum, Lawrence LaJohn, Manuel Serna-Maytorena, William Wrage (chairman)

Assoc. Prof. Carl Carrier, Richard Danner, Thomas Franz, Ursula Lawson, Barry Thomas, Marie-Claire Wrage

Asst. Prof. Noel Barstad, Grafton Conliffe, Abelardo Moncayo-Andrade, Lois Vines

Instr. Joseph Burns, Maureen Weissenrieder

Lect. Jacqueline Bolen, Douglas Hinkle, Joseph Ipacs, Bartolomeo Martello, Charles Richardson, Henry Silver

Music

Prof. Howard Beebe, William Brophy, Leighton Conkling, Sherwood Hall, Eugene Jennings, David Lewis, Robert Smith, Clyde Thompson (director)

Assoc. Prof. Ernest Bastin, Reginald Fink, Adrian Gnam, Guy Remonko, Harold Robison, James Scholten, Margaret Stephenson, Margene Stewart, Richard Syracuse, Richard Wetzel, Eugene Wickstrom, Ira Zook

Asst. Prof. Gail Berenson, Pauline Gagliano, Lucile Jennings, Michael Kellogg, Leslie Kleen, Allyn Reilly, Ron Socciarelli, James Stewart

Instr. Ken Andrews, Nancy Beebe

Nursing

Asst. Prof. Elizabeth Black (part-time), Barbara Pfeiffer (part-time), Paul Spear (part-time), Audrey Thompson, Margaret Wyatt (director)

Instr. Emily Harman

Ohio Program of Intensive English (OPIE)

Assoc. Prof. Robert Dakin

Instr. Fonda Fry, Louis Holschuh

Organizational Sciences

Prof. Paul Hersey, J. A. Lee, Arthur Marinelli, Lucian Spataro, John Stinson

Assoc. Prof. Donald Bolon, William Day (chairman), Thomas Johnson, Lawrence Miller, Lane Tracy, Harvey Tschirgi

Asst. Prof. Jonathan Reiff, Alice Rutkoskie

Philosophy

Prof. Donald Borchert, Richard Buttrick, Stanley Grean (chairman), Warren Ruchti, Robert Wieman

Assoc. Prof. Gene Blocker, Michael Corrado, Algis Mickunas, David Stewart, Robert Trevas, George Weckman

Asst. Prof. James Perotti, Elizabeth Smith

Physics

Dist. Prof. Raymond O. Lane

Prof. Ernst Breitenberger, James Dilley, Roger Imlay, Earle Hunt, Richard Koshel, David Onley (chairman), Jacobo Rapaport, Edward Sanford, James Shipman, Falden Stumpf, Tomoyasu Tanaka

Assoc. Prof. Jerry Adams, Jeremiah Berry, Charles Briant, Ronald Cappelletti, Charles Chen, Darrell Huwer, Roger Rollins, Louis Wright, Seung Yun

Psychology

Dist. Prof. William U. Snyder

Prof. Homer Bridshaw, James Bruning (chairman), Leonard Ferguson, George Klare, Sverre Lindsfold, David Russell, Lawrence Waters

Assoc. Prof. Robert Almi, Francis Bellezza, Jean Dreyenstedt, Elliot Entin, Ben Feallock, John Garske, David Johnson, Harry Kotses, Paul Lewis, John McNamara, Danny Moates, Gary Schumacher

Asst. Prof. Margaret Appel, Jack Arbuthnot, Hal Arkes, Paul Gleason (part-time), Kenneth Holroyd, L. Rebecca Propst, Neil Ribner (part-time), Gary Sarver

Instr. Julia Klare (part-time), James Short (part-time), June Snyder (part-time)

Lect. Catherine Semans (part-time)

Radio-Television

Prof. James Anderson, William Miller

Assoc. Prof. Joseph Berman, Archie Greer, Drewry McDaniel, Arthur Savage

Asst. Prof. Charles Clift

Instr. James Murray, Robert Long

Social Work

Prof. Helen Worstell (chairman)

Asst. Prof. Patricia Baasel (part-time), Miriam Clubok, Thomas Oellerich

Instr. Barbara Daniel (part-time)

Sociology and Anthropology

Prof. Rodney Elliott, Orville Gursslin, William Harlan, Shu-Ching Lee, William Wood

Assoc. Prof. Girard Krebs, Bruce Ergood, Bruce Kahre, Arthur Saxe, Don Shamblyn, Robert Sheak, David Sutherland, Alex Thilo, Eric Wagner (chairman)

Asst. Prof. Christa Bauseh, William Burkhardt, Tibor Koertvelyessy, Robert Shelly

Instr. Wilford Watts

Theater

Prof. Alvin Kaufman (director), Robin Lacy, George Sherman

Assoc. Prof. Dennis Dalen, Virginia Hahne, Seabury Quinn, Robert Winters

Asst. Prof. Berry Dilley, Lonny Frazee

Instr. Robert St. Lawrence

Zoology and Microbiology

Prof. Ronald Downey (chairman), Frederick Hagerman, James Lawrence, John McQuate, Wesley Peterson, Henri Seibert, William Romero, Jerome Rovner

Assoc. Prof. Charles Atkins, Oscar Heck, Robert Hixida, William Hummon, Patricia Jones-Witers, Seigfried Maier, Richard Walker, James Wilson, Weldon Witters

Asst. Prof. Gerald Svendsen

Instr. Janice Gault

Lect. Bernadine Allen

Belmont County

Assoc. Prof. Liberty Antalis (English), John H. Bischoff (chemistry), Claude Colvin (English), Gifford Frazee (economics), Adam Giandomenico (hearing and speech sciences), Thomas Helms (curriculum and instruction), James Kettler (physics)

Asst. Prof. Leonce Baran (modern languages), E. R. Bovenizer (dean of campus guidance counseling and student personnel), Lawrence Bush (mathematics), Michael McTeague (history), Kay Mansueti (botany), David Miles (comparative arts), Paul Mingvar (zoology),

Michael Mormanis (physical education), Victor Rutter (history), Thomas Stubbs (mathematics), Samuel H. Weaver (history), Henry Winkler (psychology), Howard Wisch (philosophy)

Instr. Dan Stern (sociology)

Lect. Kenneth V. Poulton (accounting)

Chillicothe

Assoc. Prof. Jane Neault (English), Atwell M. Wallace (botany), Robert Christian (physical education), Monica Wyzalek (mathematics)

Asst. Prof. William Abernathy, Jr. (psychology), Mamtazuddin Ahmed (economics), Edwin Hunt Badger (dean of campus; government), Harold Bigony (chemistry), David Harding (law enforcement), Glenn Mackin (government), Howard O. Miller (physical education), Donald Saunders (history), Arthur Vorhies (zoology)

Instr. Rita Bennett (interpersonal communications), Ronald Salomone (English)

Lancaster

Assoc. Prof. Seth Greenberg (psychology), James E. Karns (mathematics), Lovell LeClair (dean of campus; educational administration), W. Gene Stoppenhagen (physics), Jeffrey Wagner (theater), Larry E. Wilson (chemistry)

Asst. Prof. Larry Ault (economics), Gary Baldwin (mathematics), Sonny Baxter (geology), Jan Cox (mathematics), Sue Cummins (secretarial technology), James A. Fannin (history), Edward M. Fitzgibbon (history), Donald Jansen (interpersonal communications), Frederick Kalister (English), Polly Lyons (physical education), Hannah McCauley (library technology), David D. Mowry (zoology), Paul Nemetz (physical education), Merl Primmer (botany), Joanne Wolford (library technology), Paul Yuckman (English), Ronald Zishka (sociology)

Instr. Carol Christy (government), Peter Desy (English), Jerry Drummond (engineering), Giorgio Furioso (art), Gordon Groby (philosophy), Fred Herr (accounting)

Zanesville

Prof. John Arnold (philosophy), James K. Olsen (dean of campus; government), Roger Wilcox (psychology)

Assoc. Prof. Thomas Bixler (physical education), Richard Brumbaugh (chemistry), William Dailey (curriculum and instruction), Marcia Herman (music), Alice Tom (nursing)

Asst. Prof. Michael Abrams (psychology), Donald Althaus (English), John Benson (zoology), Melissa Bixler (physical education), Gary Bradford (interpersonal communications), George Brooks (zoology), James Hoeffer (economics), James Jordan (government), John Kelbley (English), Marye Keslar (English), Michael Kline (history), Craig Laubenthal (guidance, counseling and student personnel), Robert Rider (mathematics), Barbara Schilling (nursing), Louis W. Smith (mathematics), Mary Stiers (radio-television), Judith Swinehart (nursing), George Ware (English), Russell White (history), Joan Woolf (nursing)

Instr. Shirley Barr (nursing), Dorothy Campbell (nursing), Bruce Gaskins (guidance, counseling and student personnel), Cynthia Lenz (nursing), Nancy Metz (nursing)

